AEROSOL AGE

THE MAGAZINE OF PRESSURE PACKAGING

CSMA Meeting Reports

Propellant Chilling Effects

Cosmetic Product Research

Ointment Foam Filling

Aerosols' Impact on Advertising

Silicone Mold Release

Aerosol Supermarket

TGA Scientific Session

JANUARY, 1959

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Cologne	DH-111
Cologne Bouquet	DH-117
Carnation	DH-131
Cedar Wood	DH-132

COLOGNES – PERFUMES	
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Bouquet	DH-28
Floral	DH-57
Lavender	DH-66
Lilac	DH-72
Floral Cologne	DH-83
French Oriental	DH-87
French Bouquet	DH-90
Cologne	DH-111
Jasmin Bouquet	DH-123
Mist Bouquet	DH-125
Mist Bouquet	DH-130
English Lavender	DH-133
Oriental Bouquet	DH-138
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HOUSEHOLD & AIR FRESHENER SPRAYS	
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Pine Wick Type	DH-30
Xmas Tree Pine	DH-31
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Bouquet	DH-41
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Rose	DH-55
Orange Blossom	DH-59
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Cool Mint	DH-115
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Medicinal	DH-70
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Lemon	DH-94
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Lavender	DH-119
Carnation	DH-131
Cologne	DH-142
Floral Bouquet	DH-147

MOTH & INSECT SPRAYS	
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Cedar Balsam Pine	DH-33
Violet	DH-42
Spicy Mint	DH-50
New Mown Hay	DH-69
Spice	DH-74
Para Odor	DH-122
Jasmin Bouquet	DH-123
Cedar	DH-127
Cedar Wood	DH-132
English Lavender	DH-133
Lavender Bouquet	DH-150

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JANUARY, 1959 VOL. 4, No. 1

AEROSOL AGE

The magazine of pressure packaging

THIS MONTH'S COVER

A supermarket featuring only aerosol products was easily the highlight of the 45th annual meeting of the CSMA in New York Dec. 8-10. Members of the consumer and trade press (and later CSMA members) were given an opportunity to "shop" for and pick out products they wanted. The "Supermarket Press Party" was given by the CSMA's Aerosol Division to mark its tenth anniversary, and to point out the wide range of products in all fields. (Story on page 23).

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Some manufacturers of insecticidal and repellent aerosols use complete formulations, tailor-made to their specifications. Others like to roll-their-own from separate ingredients. Still others take a middle-of-the-road position and buy partial formulations.

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McLAUGHLIN GORMLEY KING COMPANY
1715 S. E. Fifth Street, Minneapolis, Minnesota

● Please send information on aerosol ingredients, partial formulations and complete formulations.

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Wellston, Ohio
Western Filling Corp.
Los Angeles, Calif.

ISOTRON—The Key to Modern Living

INDUSTRY CALENDAR

Society of Pharmacists in Industry, Jan. meeting; Academy of Sciences, New York.....Jan. 20

Eastern School of Retail Management and Trade Show (formerly the Garden Supply Trade Show), Hotel Statler, New York City. Jan. 30-Feb. 1

National Canners Assn. and Canning Machinery & Supplies Assn., canners show and conference, Chicago.....Feb. 21-24

National Sanitary Supply Association, 36th annual convention and trade show, Conrad Hilton Hotel, Chicago .....April 12-15

National Packaging Show of American Management Association, International Amphitheater, Chicago, April 13-16; packaging conference, Palmer House, Chicago..April 13-15.

Toilet Goods Association, 24th annual convention, Waldorf-Astoria, New York .....May 12-14.

Institute of Food Technologists 19th annual meeting, Bellevue-Stratford Hotel, Philadelphia, Pa. May 17-21

Chemical Specialties Manufacturers Association, 45th Mid-year meeting, The Drake Hotel, Chicago May 18-20

International Symposium on Gas Chromatography, of The Instrument Society of America, The Kellogg Center for Continuing Education, East Lansing, Mich...June 10-12

Packaging Machinery Manufacturers Institute, annual show, New York Coliseum, New York. Nov. 17-20

Chemical Specialties Manufacturers Association, 46th annual meeting, Mayflower Hotel, Washington, D. C.....Dec. 7-9

•

Reynolds Research Center

Reynolds Metals Co. has officially opened its new center for aluminum packaging research and production in Richmond, Va. The new $11.5 million building will house the packaging research laboratory, container manufacturing facilities, styling and design services, a machinery development center, and a pilot research plant. One of the projects of the new center is expected to be various types of aluminum cans, including Reynold's version of an aluminum aerosol container.

• **Silicone Aerosols as Mold Releases** . . . The first major breakthrough in the aerosol field for silicone, for use in mold release products, is discussed fully by A. R. Morse, of the Injection Molders Supply Co. The history of both formulations and corporations is included, as well as a prediction of how the health of the mold release industry will be generally affected by recent developments. The article bgins on page 24.

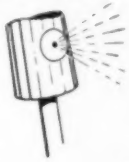
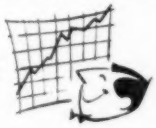
• **CSMA Elects King President at 45th Meeting** . . . Over 1000 attend meeting which marks 10th anniversary of association's Aerosol Division. Distinguished speakers from government highlight program of general session, which is reported on page 14.

• **DuPont Survey Reveals Women Buy Most Aerosols** . . . Consumer buying trends, one of the key factors sometimes overlooked by the aerosol marketer, find a startlingly large percentage of aerosol product purchases are being done by the adult female member of the household. Complete report on this important new study appears on page 16.

• **Role of Custom Filler to Grow with Expansion of Food Field** . . . Clarence Clapp, executive in the first aerosol food custom filling company, estimates the future of the custom filler in the food field to be excellent. In a paper (reported on page 17) he points out the strengths of the custom fillers lies in their equipment, skills, and experience.

• **CSMA Aerosol Supermarket Draws Large Attendance** . . . The Publicity Committee of the CSMA's Aerosol Division scores another triumph with the consumer and trade press with a special supermarket press party. Photographs and story appear on page 23.

A Thirty Second Success Story

Once Upon A a happy Aerosol man wanted to be more successful. His product was good, but not selling as smoothly or as much as he wanted. Then he got just the he needed for increased success! "I'll try the Quality Newman-Green Aerosol Valves  and see if their exclusive features really do help  profits."

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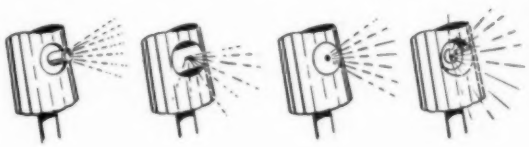

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Illustrated here is the break pattern of a bottle subjected to 500 pounds hydrostatic pressure. An adequate margin of safety is provided above the maximum recommended gassing pressure.

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- **adds resistance to breakage**
- **prevents flying particles on breakage**

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*Reg. U. S. Pat. Off., FMC

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EDITORIALS

New Life for Technical Sessions . . .

During 1959 two industry associations, widely separated by both geography and prime interest, will attempt a unique new method of delivering technical papers. We believe it warrants close observation by the CSMA, TGA, IFT, SCC, and similar trade and technical groups. The new method is a radical departure from the old established one of having a paper read while the audience, playing a strictly passive role, pays little attention to the specific data mentioned because its members know that they will be able to study the text of the paper when it appears in the trade press or the official publication of the organization.

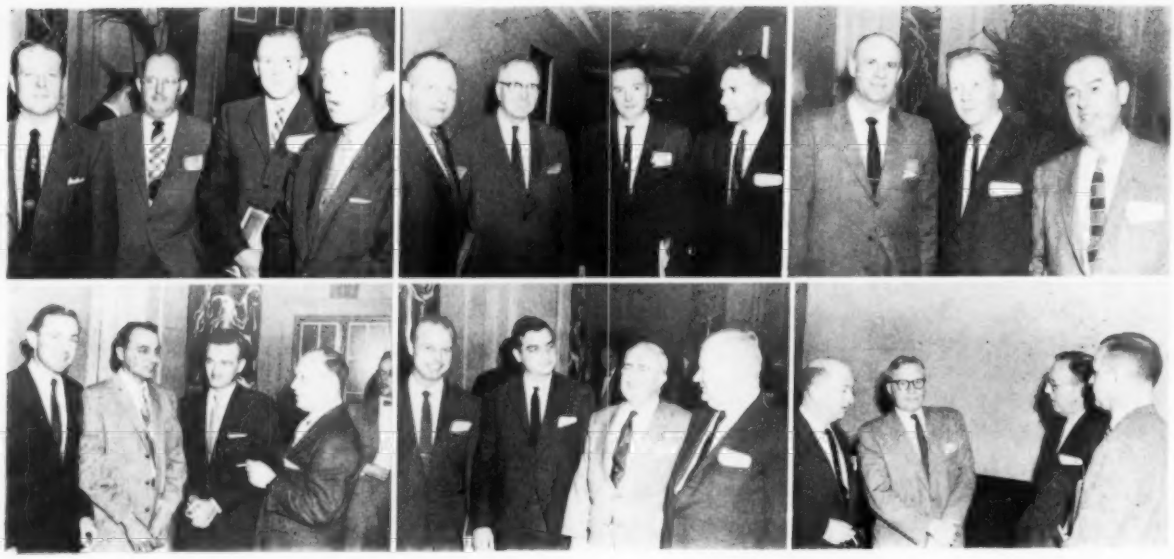
Besides this most immediate and most obvious disadvantage of comparative inattention by a large part of the audience, this type of presentation has a number of other allied weaknesses. Too many of the audience tend to wander in and out at will, and others don't show up for the technical sessions at all. Then too, it's common knowledge that the *reading* of one paper after another has a tendency to lull a portion of the audience to sleep—or, at least to cause interest to wander. And finally, we occasionally get the distinct impression (for at least some of the papers) that far too many contain oft-repeated information that may best be termed "old hat," or in some cases a straight, blatant sales pitch for a commercial product.

Next month the Pharmaceutical Manufacturers Association, at its meeting in Chicago, will institute a new and interesting way of presenting technical papers. A panel of aerosol experts, led by Morris Root, technical director of G. Barr & Co., will address the meeting. But instead of simply being read off during the technical session, *these* particular papers will be published and distributed to the association's membership well in advance of the meeting. The prospective audience will have an opportunity to read and digest each of the papers in advance. Then, during the actual meeting, the papers will act as a frame of reference for an open and unrehearsed discussion of the subject by the authorities present. This will involve the fielding of questions both from other members of the panel and from the audience, and off-the-cuff (and therefore essentially new) viewpoints are bound to be introduced. Altogether, this extemporaneous give-and-take should be indeed interesting—for it will tax the ability of each of the panel members to handle difficult technical questions without warning, at the same time putting to test both their knowlege of their subject material as well as their self-assurance.

A second such experiment will be attempted later this year in England at a meeting of the British Society of Cosmetic Chemists.

If this new method is followed with enough skill and adequate preparation, we think it is bound to be a success. Audience interest and participation will be increased manyfold, and the technical meetings will be able to claim greater audiences from among the convention delegates.

Also, from a strictly journalistic viewpoint, these symposium sessions will attract greater participation by trade magazine editorial personnel. Association secretaries and press representatives will find that there is a substantial increase in attendance at the technical sessions by the trade press, and general coverage will proportionately increase. Reporters will have to get their stories first hand in the meeting rooms—rather than "canned" in the press room. In other words, this new method of presentation will serve as an "equalizer" of journalistic opportunities—something that has been needed for some time to assure the industry of earlier and more complete press coverage.



Donald King Elected President at CSMA's 45th Annual Meeting

DONALD M. KING, head of the Masury-Young Co., Boston, was elected president of the Chemical Specialties Manufacturers Association as that group held its 45th annual meeting at the Commodore Hotel in New York Dec. 8-10. He succeeds James E. Ferris of Hooker Chemical Co., Niagara Falls, New York.

George W. Fiero, of Esso Standard Oil Co., New York, was elected first vice-president and Charles E. Beach, John Stalford & Sons, Inc., Baltimore, was elected second vice-president. P. C. Reilly, Reilly Tar & Chemical Corp., Indianapolis, and H. W. Hamilton were reelected treasurer and secretary, respectively.

Three new members were elected to the board of governors: Glenn E. Doerr, Federal Varnish Division, Chicago—two years; Michael Lemmermeyer, Aromatic Products Co., New York, and Leonard J. Oppenheimer, West Chemical Products, Inc., Long Island City, N. Y. three years each.

George P. Larrick, Commissioner of Food & Drugs, Dept. of Health, Education, and Welfare, led a list of distinguished speakers at the one general session for the association's entire membership, held on the morning of Wednesday, Dec. 10. He cautioned packagers of aerosol food products that their products now come under the Food Additive Amendment to the Food and Drug Act, and that this new law calls for chemicals for use with food products to be tested and registered prior to their use in a marketed product.

"The new propellants, stabilizers, and emulsifiers used in food products packaged in pressurized containers will definitely come under this legislation," he advised. He urged marketers and packagers contemplating the packaging of these products to write to the FDA for copies of this amendment, which requires that food additives in use prior to Jan. 1, 1958 must be cleared for use by March 9, 1959. Those which were introduced after Jan. 1, 1958 have until March 6, 1960 to obtain clearance from the FDA office.

Donald King George Fiero

Mr. Larrick commended the CSMA on its work in preparing the proposed legislation in Congress on hazardous substances. He explained that the FDA has not yet taken an official position on this or any other legislation proposed for the next session of Congress. In lieu of passage of this and similar measures, he urged chemical specialities manufacturers as an industry to take increased precautions to prevent accident to the user through use of misuse of any product.

As an example of the type of thing that might be done along these lines, the Commissioner cited the hair spray question, which was introduced early last year by the publication of an article in the *New England Medical Journal* by three St. Louis doctors. He told how the FDA had initiated a "crash investigation" of the possible

Facing page (top row): Donald Shaw (Monroe-Danford Co.) Ralph Legate (Precision Valve), Edward G. Johnston (Connecticut Chemicals Canada), and Roy Hoonhout (Monroe-Danford). Tom Wallace (General Chemical); H. W. Hamilton (CSMA), Bruce Tyler (General Chemical), and Al Mulliken (CSMA). Gene Rose (Gene Rose Co.), Ray Shinn (Crown Can), and Ralph Dorland (*Aerosol Age*).

Second Row: B. Cottle Jr. (Givaudan-Delawanna), A. Iannacone (Fluid Chemical), Sig Was (S. J. Was Associates), and Ed Bennett (Fluid Chemical). Tom Christianson (Dow), Henry Belin (Scranton Aerosol Division), Bill Baulieu (Bridgeport Brass), and Al Osman (Scranton Aerosol). Joe Fredette (American Can), Tom Johnson (DuPont), C. S. Stephens (American Can), and Carl Oldach (DuPont).

dangers and that the as yet incomplete investigation by the top researchers within the FDA has so far shown "no evidence that aerosol hair sprays are injurious to test animals."

This type of testing might better have been done *before* the products were introduced on the market, Mr. Larrick pointed out. "I am certain we (of the FDA) and the marketers themselves would have felt considerably more at ease if we had known that these products had been tested *prior* to introduction on the general market."

Dr. Harold Magnuson, medical director of the Special Health Service Program of the Dept. of Health Education, and Welfare, spoke on the necessity for industry to help maintain the country's national resources. He pointed out that two of our major resources—water and air—are rapidly being used up by the industrial community.

"Already 10,000 communities in the U. S. have atmospheric pollution to some degree. Many major cities are outgrowing their air supply—and this is a relatively expendable resource."

Water consumption is also becoming a problem of staggering proportions, he declared. Consumption has reached a figure of more than 1500 gallons per capita per year and is climbing upward at a fantastic rate as industrialization and the move toward metropolitan areas continues.

Dr. Magnuson described the development of the idea of poison control centers, and pointed out that one of the 200 such centers recorded a total of 710 calls per month during a month last year.

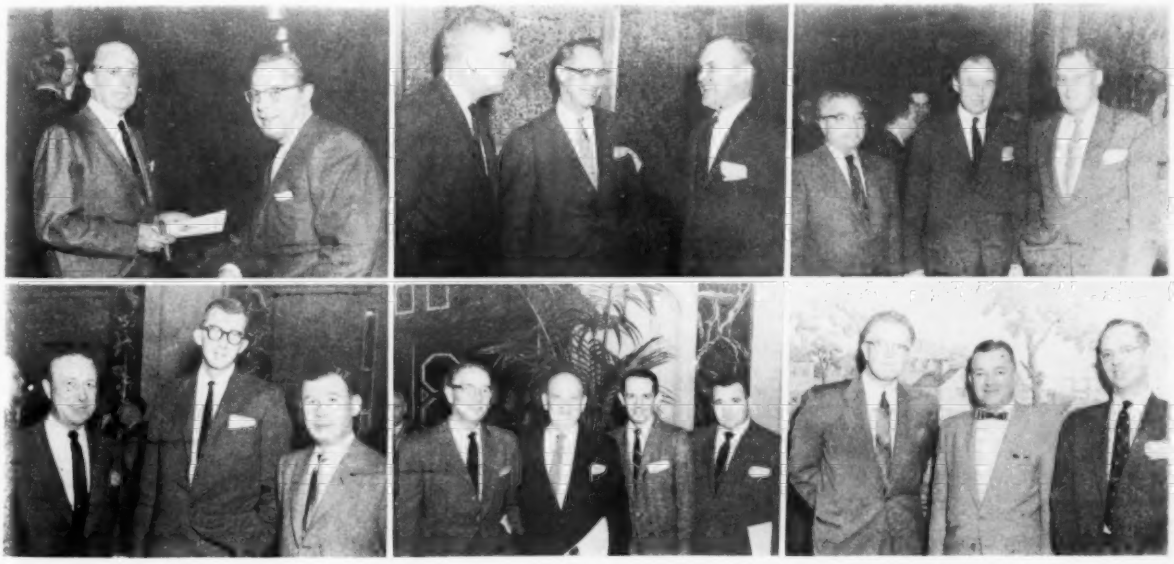
DR. LEONA BAUMGARTNER, New York City Health Commissioner, renewed her call upon the chemical industry to help educate consumers as to safe use of household chemicals.

Noting that "the average household today has the equivalent of a chemical laboratory in its kitchen and household cabinets," Dr. Baumgartner told a general meeting of the CSMA that protection of the public must be the joint responsibility of government and chemical manufacturers. Under provisions of its own chemical labeling law, tentatively approved last month and scheduled for adoption

(*Continued on Page* 63)

Below (top row): Herbert Fine (Plasti-Kote) and Stan Goldberg (Aerosol Research), K. W. Burke (Lenk), S. R. Goff (Toni), and Gordon Gilroy (Precision Valve). M. J. Coppola and R. M. Sangstrom (DuPont) and Bard Brown (General Chemical).

Bottom Row: Bill Ackley (van Ameringen-Haebler), Don Murphy (Gilbert Plastics), and Sylvan Lefcoe (Par Industries). Lyons Joel (Selig Co.), Quaid Bloom (Fries & Fries), Bill Brosie (Stalfort), and Frank Mina (Lodes Aerosol Consultants). Joe Tomlinson (General Chemical), E. E. Kayser (Thomasson of Pa.) and Wiley Pickett (Pennsalt).



Women Purchase Most Aerosols, New DuPont Survey Reveals

"WOMEN do the bulk of purchasing of all types of aerosol products," declared A. H. Lawrence, propellant sales manager of DuPont's "Freon" Products Division, before the 45th annual meeting of the CSMA in New York's Commodore Hotel on Dec. 9. Only in the purchase of shave creams, paints, and car wax do the men outdo the women, he continued.

Mr. Lawrence was reporting the results of a study undertaken by his company to discover what aerosol products were actually purchased for home use during a given period of time, what brands were purchased, and what person in the household did the purchasing. "We felt that purchases were the really acid test as far as consumer usage, likes, and dislikes, were concerned."

The survey was conducted by W. R. Simmons & Associates Research, Inc., and was a national probability sample of approximately 2,500 personal interviews with housewives across the nation in both urban and rural areas. Mr. Lawrence pointed out that the study was representative of all households in the U. S. except those which do not have an adult female member. "Since there are approximately 50.5 million households in the U. S., and about 7% of these do not have female members, this survey can be considered to be representative of about 47 million households."

The survey covered insecticides (other than mothproofers), hair spray, paint or lacquer, cologne, sun tan lotion, clear protective spray, window cleaner, spot remover, antiseptic, burn spray, shoe polish, leather conditioner and cleaner, and car wax.

In each home the following three questions were asked:

1. Has anyone in your home bought any one of the following products in aerosol form in the last six months?
2. If yes, what brands were they?
3. If yes, who bought it?

Eighty-one percent of the respondents admitted to having purchased one or more aerosol products during the six month period covered by the survey, and insecticides and hair sprays tied for first place in the study with 45% of the housewives reporting the purchase of one or more units. "In second place room deodorants were bought by 39%, and in third place shaving cream was purchased by 31%.

"As a matter of fact, our production estimates for the top six aerosol products produced in 1957—insecticides, hair spray, room deodorants, shaving cream, colognes, and paints and lacquers shows that 83% of the aerosol production is devoted to these six top products. In our study, these same six products accounted for 81% of the total mentions of purchase of one or more aerosol products by the respondent in this survey.

". . . The only product not in the top six in production which shows up strongly in the survey, is window cleaners. Perhaps this may be accounted for by the fact that window cleaners have had a remarkable growth in 1958; but we suspect there is some confusion in the minds of housewives between aerosol window cleaners and the handpump spray variety."

Mr. Lawrence pointed out that the sales promotion job still to be done with aerosol product types can be illustrated by the fact that more than 80% of the aerosol products produced and purchased were from the leading six product types. This situation exists, he declared, despite strong consumer indications that "practically all aerosol products have a wide appeal for consumers *regardless* of the product.

"When the respondents are broken down according to age, we see that while some differences do exist with respect to age, usage is consistently high over the whole range. In insecticides, for instance, 42% of the house-

Executives of three of the firms that combined resources to produce the package that won the CSMA's "Best Package of the Year" for perfumes. Phil Sagarin (VCA), Edward Thornhill (Chanel, Inc.), and W. H. Harris (Scovill Mfg. Co.). VCA supplied the valve and Scovill the container for "Chanel No. 5" spray cologne.

At the Aerosol Packaging Awards Exhibit: (left) the stand holding the winners in the various categories drew heavy attendance after the announcement of the winners. (right) W. B. Seiler and Tom Christianson (both Dow Chemical Co.) look over some of the other entries.

wives between the ages of 15 and 29 purchased one or more units during the six-month period and 50% of the housewives between the ages of 40 and 49 purchased one or more units. These and other age groups make up a composite total of 45%. In hair sprays, the range is from 54 to 35%, with a composite total of 45% also.

The income group tends to have little influence on the purchase frequency, the study indicated. "Even the lowest income group, under $2,000 per year, had a fairly high proportion of the housewives purchasing these products. Probably related to income is a breakdown we made by education. We found that purchases of aerosols increase in practically a direct ratio to the amount of education — in other words, the more education a woman has, the more aerosols she buys."

Some of the other findings in the survey:

1. The respondents living in the South are consistently lower in aerosol purchase mentions than the rest of the country.
2. Purchase and usage of aerosol products is not confined to any one group or class of people. The immediate problem is to get more people to buy some of the aerosol products other than the leading types.
3. For most personal products, the top few brands accounted for the major share of purchase mentions. In the case of shave creams, of 15 brands tabulated, the top five brands accounted for 61% of the mentions. In hair spray, of 20 brands tabulated, just three brands accounted for 70% of the purchase mentions. And in colognes, one brand out of 30 that were tabulated accounted for 43% of the purchase mentions.

(*Continued on Page* 61)

CSMA Meeting Report

Role of Custom Filler to Grow With Expansion of Food Field

THE importance of the custom aerosol filler will grow with the expanding pressurized food field, Clarence P. Clapp, Western Filling Corp., Los Angeles, told the Tuesday morning session of the Aerosol Division of the CSMA at the 45th annual meeting of the association in New York's Commodore Hotel on Dec. 9. "The facilities of the custom filler must indeed be remarkably versatile and substantial to cope with the new methods of food finishing, handling, leading, and testing now being developed," Mr. Clapp declared.

". . . The custom filler *must* provide complete services along with active sales campaigns to demonstrate to merchandising food people the facts and potential of this field. He must have the facilities and personnel to perform and a willingness to cooperate with suppliers and food companies alike, for the problems can easily be too vast for one to handle. He must be prepared to meet high production demands on short notice with positive and unwavering quality control. Costs must likewise be carefully controlled to avoid pricing above the volume market."

Mr. Clapp then traced the development of a food product (a barbecue sauce) from its inception as an idea to development of the finished item on the shelf of the retail market. "It was conceived that spraying of a barbecue sauce would be an ideal method of application and would eliminate the rather messy conventional operation involving brushes, breakable bottles, etc., that normally go with barbecuing. The basic type, color, and flavor desired was arrived at first by careful evaluation of existing products along with experience in related fields. The can company and filler were contacted, and various ideas discussed as to how this product might best be modified for spray packaging. First of all, one must have a suitable container and valve to withstand any corrosion that might be encountered, one with the proper physical characteristics to dispense the product under all conditions of use. A suitable valve with proper functional characteristics to yield a spray of desired dimensions and delivery control must be obtained. Also, the bacteriological characteristics

(*Continued on Page* 62)

Careful Propellant Mixing Can Prevent Skin Chilling

SKIN chilling usually associated with aerosol propellants can be kept to a minimum by skillful mixing of some of the wide choice of liquefied propellants available, Theodore F. Dunne, General Chemical Division of Allied Chemical Corp., Edgewater, N. J., told the Dec. 10 technical session of the CSMA's Aerosol Division.

The major portion of Mr. Dunne's paper was devoted to a detailed description of a new technique for the determination of the chilling effects of fluorinated hydrocarbon aerosol propellants.

The technique employs an iron-constant thermocouple enclosed in an aluminum foil envelope which is maintained in the range of human skin temperature by a resistance coil. The propellant is sprayed onto the foil, directly over the thermocouple, and the resulting temperature change is measured with a potentiometer pyrometer. Accurate and reproducible measurements of the chilling effects of the propellants can thus be obtained. It has been found that a reliable estimate of the chilling effects of the propellants on the skin, itself, can be derived from the data provided by this method.

The device developed by General Chemical researchers was reported to be capable of recording a temperature change of 0 to 160° in 12 seconds, and of being read to within 0.5° accuracy. For the experiment a valve with an orifice of .018 was used, but to use it one difficulty was encountered with actuating it with sufficient consistency for a precise burst lasting 1½ seconds. The valve orifice was kept four inches from the target for the whole range of the tests, since it was found that tests of this type were not practical at more than six inches because the evaporation factor became too great.

A device of this type, Mr. Dunne pointed out, can develop a number of causes for error in data. Among these he listed variations in room temperature, disruptive air currents, and differences in valve delivery rates.

"By estimating propellant pressure, molecular weight, molecular boiling point, and volatility, we attempted to derive a mathematical formula to accurately predict chilling temperatures." This was not possible, he reported, but by arriving at standard chilling temperatures and observing the chilling relationships of each component of a propellant mixture, the chilling effects are easily calculable. For some common propellants, he gave the following chilling temperatures: Genetron 12—44°; Genetron 12/11 (50/50)—47°; Genetron 11—50°; Genetron 114a—66°.

Some other findings reported by Mr. Dunne were:

1. Increase in distance decreases the chilling effect.
2. Percentage losses showed the most volatile had the greatest loss of chilling effect.
3. A mechanical break-up actuator

(*Continued on Page* 61)

Further Product Testing Needed to Protect Future of Aerosols

"THERE has been no greater failure in the cosmetic industry than that of aerosol shampoo, and no greater success than that of aerosol hair spray," declared Donald H. Powers, of the Warner-Lambert Institute, Morris Plains, N. J., in an address to the Dec. 10 meeting of the Aerosol Division. Reminding his audience that the aerosol package is an expensive item, he warned of possible new and similar failures to that of shampoo if more detailed product studies aren't made with some of the many new pressurized products that are placed on the market.

There is a particularly serious need for better methods of evaluating and measuring aerosol performance and uniformity, he declared. "In any particular product we in the cosmetic industry don't always fully understand what the woman customer is seeking when she buys a product." As an example of this he cited shampoos, the performance of which varies widely. "They range in performance all the way from 91 to 21% of grease extracted, indicating that cleaning quality is not the prime consideration in a large percentage of shampoo sales. In fact, some of the leading sellers in the shampoo field actually perform far worse than the buyers imagine. The characteristic most in demand for shampoos appears to be that they foam well in both cold and warm water, and that they impart a luster to the user's hair."

Marketers need to have much more information on the performance of hair sprays, Mr. Powers suggested. He said there is little information on:

1. How hair sprays set the hair.
2. How much is actually needed to do the job (the actual concentration needed to do the job varies widely with brand).
3. How does it accomplish its filming action on the hair.
4. What is the precise effect of varying degrees of moisture and humidity on a hair spray.

"We think a hair spray is successful if it contains no water, imparts a

(*Continued on Page* 61)

Aerosol Advertising Attains New Importance

THE best selling aerosol product types seem to be the best advertised, Joseph J. Tomlinson, General Chemical Division, Allied Chemical Corp., New York, told the Aerosol Division of the CSMA at the association's 45th annual meeting in New York last month. He suggested that more advertising capital spent on less popular aerosol types might bring substantial sales gains for these products.

Speaking on "The Impact of Aerosols on Advertising of Consumer Products," Mr. Tomlinson declared that, "Of all aerosol products, hair sprays appear to be the most widely and the most aggressively advertised." He demonstrated this by showing a whole series of television commercials, many of which had the same basic motivation theme. He also showed a number of four-color advertisements which have appeared in leading consumer magazines demonstrating the same point.

There are increasing indications, he declared, that larger and larger percentages of "big" advertising money are going for television commercials. "One advertiser, spending a total of $3 million for advertising this year, devoted more than 90% of it to television time. Another admitted to spending 75% of a similar large total budget for television.

Safety programs, if developed and administered properly, can save an industry millions or even billions of dollars each year, Roy M. Barnes, Jr., sales promotion manager of DuPont, told the Dec. 10 meeting of the Aerosol Division. The need for such safety programs is pointed up sharply by statistics that reveal that as recently as 1956 industrial accidents cost the U. S. economy approximately $11 billion, or about one-fourth of the nation's budget for national defense. Aside from personal suffering, costs of accidents for a typical plant now average about $55 per employee.

As an example of what can be done

(*Continued on Page 60*)

Prior to a meeting of the CSMA Aerosol Division Administrative Committee are (clockwise): J. J. Buchanan (Continental Can), R. Svensen (Chase Products), Ed McKernan (Seaquist), Russell McGhie (Colgate), and A. W. Lawrence (DuPont).

CSMA Meeting Report

Fragrances for Aerosol Products Credited with Success of Package

"ALTHOUGH fragrance has done so much to assure the success of the aerosol, the aerosol in turn should do much to increase the sales of strictly fragrance products, particularly when an attractive purse size container is available on a large scale," E. R. van Liew, of Givaudan-Delawanna, Inc., New York, told a meeting of the Aerosol Division at the CSMA's 45th annual meeting in New York on Dec. 9. In a paper co-authored by Victor DiGiacomo, also of Givaudan-Delawanna, Mr. van Liew pointed out that "women who have heretofore shied away from carrying purse size flaconettes of conventional perfume, lest spillage ruin the interior of an expensive hadbag, have little excuse not to use aerosol perfumes and carry them, be it while shopping, on special occasions, or while traveling."

Mr. van Liew credited fragrance for a large part of the success of hair sprays, room deodorants, and insecticides. "Undoubtedly many remember the day when all insecticides smelled like citronella or wintergreen. Neither one of these odors did a particularly good job of killing the stench of the crude kerosene base, but did an excellent job of killing the sleep of the party who used the product just before bedtime."

". . . The growing consciousness by the U. S. public of unpleasant odors, he declared, "indicates that we in the U. S. are still ready and willing to perfume, deodorize and freshen the air we breath." Room deodorants, he suggested, would have been a "complete and utter failure" had it not been for fragrance.

Mr. van Liew attached particular significance to the fact that the tendency to having panels of non-experts decide on what perfumes should be chosen for aerosol products has not become as widespread as it once threatened to be. If this tendency is carried to the extreme, he declared "New, intriguing, beautiful, and different fragrances would never come into being, for it is almost universal for lay people to select the existing and the familiar as their first choice

(*Continued on Page 60*)

Graham, Root, Speak on Consumer Education, Hair Spray Question

ONE of the greatest assets of the aerosol industry is its excellent press relations, Earl Graham, of the Clayton Corp., chairman of the Aerosol Division, told the membership of that division at the 45th annual meeting of the CSMA in New York on Dec. 9. Because of these press relations, and the favorable publicity and intelligent advertising by U. S. marketers, "The American public seems to have accepted aerosols with open arms. So intense has this desire been, in fact, that the desire in many instances exceeds the ability of the industry to produce."

As another of the prime assets of the industry, Mr. Graham named the tremendous amount of technical knowledge available in all segments of the industry. These assets will be needed to achieve success with the potential market, which is still tremendous. However, he added, a more realistic approach to marketing is needed.

Mr. Graham roundly criticized those in the industry who display overzealousness in bringing out new products. "The time and effort necessary to getting a product thoroughly ready for the market should never be sacrificed to the competitive situation.

Speaking at the same session, Morris Root, of G. Barr & Co., chairman of the Personal Products Subcommittee, had highly encouraging news about the hair spray question. He presented reports on two different studies to indicate that the findings of the three St. Louis doctors (*Aerosol Age* May, 1958) were based on insufficient data, and that new studies indicate that hair sprays *cannot* be accurately accused of causing the formation of granuloma and other harmful reactions in the lungs of humans.

Commenting on the basis for the conclusions drawn by the St. Louis doctors, Mr. Root said they pinpointed hair sprays as the cause of the lung damage because they were apparently "unable to find any other cause." Their article in the *New England Medical Journal*, he declared, actually constituted a *suggestion* that hair sprays *might* be the cause rather than an indictment of them based on sound scientific data. He roundly criticized the "sensationalized interpretations" of the findings by newspapers in St. Louis and other cities. There was far too much "reading things into" basic interpretations of scientific fact, he contended.

In May, he revealed, the FDA sent

Top row: Phil Meshberg (Emson Research), and Fred Presant (Aerosol Techniques). Dick Burke (Tube Manifold), Jim Bampton and John Emmerling (Krylon). Joe Gregory (Newman-Green) and Bill Walker (Continental Filling).

Bottom row: Bob Webster (Air Reduction) and Dean Rockwell (Tube Manifold). Bill Leighton (Union Carbide) and Harry Isacoff and Walter Jones (van Ameringen-Haebler). George Macuro and Roy Ferry (VCA) and Andrew Zelle (Aero-Chem Laboratories).

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Mimi Hines and Phil Ford, headliners of the entertainment at the CSMA convention, put on an impromptu act after their show.

a questionaire to all the leading hair spray marketers asking for details about formulas spray rates, and other information. Since that time, he disclosed, the FDA has been testing six different formulations on test animals. In one, rabbits in closed areas were subjected to a 30-second spray every 30 seconds for extended periods of time. Detailed clinical analyses of these test animals revealed no abnormality in the lungs or other tissues. Another set of test animals was subjected to a 30-second burst twice a day for 30 days. Again, no abnormality was reported. "At the risk of coming out with a statement before the FDA data has been fully compiled," Mr. Root said, "I can say that to this date the FDA has been able to find no toxicological evidence of physical harm to test animals from hair sprays."

The second study on which Mr. Root based his remarks was a paper delivered on Dec. 8 to the Toilet Goods Association's scientific session by Dr. Joseph Calandra, Bio-Test Laboratories, Northbrook, Ill. For his studies Dr. Calandra used guinea pigs, which he subjected to a 15-second burst three times a day for 45, 60, and 90 day periods. He too found that there was no experimental evidence to substantiate the conclusions of the St. Louis doctors.

John Buchanan, of Continental Can Co., chairman of the Aerosol Scientific Committee, briefly reviewed the accomplishments of that committee for 1957 and 1958. He declared that the committee has evolved 20 test methods and evaluation techniques, has compiled regulations and standards, and has furnished the Aerosol Division valuable assistance in answering queries and technical problems.

A hand puncturing device which can be used safely in the disposal of used aerosol containers has been developed by the Aerosol Safety Subcommittee, and a three-step method for safely disposing of them has been made available to the CSMA membership.

Mr. Buchanan suggested that the CSMA member companies can help the working of the committee by bringing its technical problems to the attention of the committee, and by continuing to make their own technical manpower and facilities available for work on committee problems.

CSMA Meeting Report

Moisture Reduction Called Key to Success of Many Aerosols

THE reduction of moisture content in aerosols will become increasingly important as more and more pharmaceutical products are developed, E. E. Husted, of the Union Carbide Chemicals Co., New York, told the Dec. 10th meeting of the Aerosol Division as the CSMA concluded its 45th annual meeting in New York. "Many medicaments are adversely affected by water content," he pointed out, and declared that corrosion of container and valve parts and general breakdown of concentrate would become increasingly important as more critical products were packaged in pressure containers.

The usual ways in which water enter the product are via the container, the air in the container, the propellant, the concentrate, and the filling operation, he said. "Filling and container problems have largely been surmounted by improved packaging techniques, and the moisture in the air in the can has been overcome by cold filling in a humidified room and by evacuation in pressure filling.

"With the concentrate, a different situation exists. Most formulations consist of from one to 12 ingredients, and it is usually *one* of these that contains the major percentage of moisture. To overcome this moisture content probably the best method at present is installation of a system using one or more of several desicants." Mr. Husted suggested Silica Gel (Davison Chemical Co.), Mobil B (Mobil Oil Co.), Activated Alumina (Alcoa), and Molecular Sieves (Linde Division of Union Carbide). Briefly discussing the characteristics of each of these, he declared that for many products it may be particularly dangerous to buy the cheapest. "Each product will have to be studied individually," he concluded, "and the desicant should be chosen that best does the job."

Mina Speaks on Viscosity

There is a proportionate decrease in delivery rate as the viscosity of a product is increased, Dr. F. A. Mina of Lodes Aerosol Consultants, Inc., New York, told the same session of the Aerosol Division. Speaking on "Viscosity-Pressure-Time Factors in Dispensing Aerosol Liquids," Dr. Mina pointed out that there is a significant lowering of viscosity as pressure is increased. He illustrated his talk with a series of charts and graphs.

A view of the supermarket during the height of the press party. The white-aproned Publicity Committee members in the photo include Bob Killifer (Union Carbide), Doug Atlas (G. Barr), and Jim Lyons (General Aniline), foreground, and Jack Wallace (Continental Can) and Ed McKernan (Seaquist) in the background. Photo below is a view of the shelves just prior to the start of the press party.

CSMA Aerosol Supermarket Draws Large Attendance

THE Aerosol Division of Chemical Specialties Manufacturers Association celebrated its 10th anniversary with a display of more than 10,000 aerosol products assembled in supermarket style as a "Press" Party for consumer and trade journal editors during the 45th annual meeting of CSMA in New York last month. Typical supermarket equipment of racks and shelves was set up and a wide assortment of aerosol products contributed to the supermarket by 150 marketers filled ten-foot shelves to overflowing. Floor racks, countercards, standing displays added authenticity to the supermarket scene.

A giant mobile, with cut-outs of aerosol containers to represent various products which dominate the market, formed the central decorative feature of the supermarket. Wire pushcarts and shopping bags were available for the convenience of the "shoppers."

Members of the Aerosol Publicity Committee, wearing aprons, acted as "sales clerks" helping the 130 editor guests who visited the supermarket, selecting what they wanted from more than 10,000 aerosol items available to them. Following the "Press" Party, the supermarket was open to registrants of the convention and their guests.

The display contained practically every conceivable type of current aerosol product, including new food products developed within the last six months. Cosmetics, paints, insecticides, and miscellaneous household products (window cleaners, shoe polishes, etc.) were particularly well represented.★

Silicone Aerosols as Mold Releases*

By A. R. Morse
Sales Engineer
Injection Molders Supply Co.
Cleveland, Ohio

A modern industrial biography that describes the early history, current status, and road for future development of silicone aerosols

THE story of the growth and saturation of the market for the silicone mold-release aerosol package is a saga of a modern industrial product that holds as much drama and conflict as any piece of fiction. Today, more than two dozen concerns are offering silicone aerosol products. Hardly a month goes by now without an announcement of a "new" silicone pressured product. And each one is always cheaper than the last.

In any such industrial development, there always are two sides to the coin. From the manufacturer's viewpoint, and especially that of the concerns who pioneered a field, the problem is whether or not to reduce quality or otherwise cheapen the product so as to meet the cut-price competition. From the viewpoint of the user, the question is which of the numerous sources to select.

Should the molder look at price alone? Obviously, no user of a mold release has the elaborate laboratory facilities available, nor does he wish to spend the time and money to analyze *each* successive mold release as it is announced. A good look at the factual history of an industry will often reveal as much, if not more, than a technical analysis of the products it produces.

Birth of an Industry

In the tense war years of the early Forties, silicone was a miracle material that took many forms ranging from silly putty to greases and fluids. Only one concern (Dow-Corning Corp.), was then actively promoting the myriad (and mostly still unknown) uses of the new compounds, for their properties were unique in chemical history.

The silicones live in a kind of twilight zone between the realms of organic and inorganic chemistry. By replacing nature's usual carbon atom with a silicone atom, the laboratory produced a synthetic fluid that had most of the characteristics of oil, but now included many amazing new properties not found in nature. Among the improvements offered by the new link with the silicone atom was the ability of the material to maintain its original viscosity at both high and low temperature extremes where ordinary oils were useless.

The new fluids also had a much lower surface tension than that of any previously-known liquid. The result was that they would spread out on and coat highly polished steels where other oils would gather into tiny balls as water does on glass. Furthermore these coatings withstood high temperatures and could be removed only by the use of solvents. One of their other properties was that they could be made into emulsions when they were mixed with water.

It was not long before silicone fluids in cheap water mixtures began to find application in the rubber industry. Such water emulsions were suitable for use on the relatively rough molds found in the rubber field, but obviously could not be used in the plastics molding industry where waxes and zinc stearate then were the most commonly-used parting agents.

Pure silicone fluids were so costly —and they still are—that they can seldom be applied economically as mold release agents in the plastics molding field without some kind of solvent or thinner. In general, only naphthas and chlorinated hydrocarbons (such as gasoline and carbon tetrachloride) can be used as thin-

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ners or carriers for silicone fluids. Nearly all such potential carriers are either too toxic or too dangerous to permit widespread use in process industries.

Properly proportioned, however, the correct thinners do not affect the low surface-tension or ability of the silicone to coat polished metal surfaces. The silicone fluids themselves are not toxic, except that when used in confined or improperly ventilated places, they may cause a temporary irritation in the eyes which soon passes away without any after-effect.

The First Silicone Aerosol

By 1946, the use of silicone emulsions in the rubber industry was well established, and there things stood. Price, toxicity, and other hazards of potential thinners seemed to block the way to the further use of silicone parting agents in other branches of the molding industry. At this juncture, it was not the ingenuity of the laboratory or the inside-executive that overcame the next hurdle. Instead, it was the imagination and resourcefulness of four Cleveland-based sales engineers who combined their varied talents and experience and developed the first commercial silicone bomb.

Two of the men responsible for the first silicone aerosol were a representative of Dow-Corning Corp. and Connie Bainter of Crown Can Co. Early in 1948, together with W. H. Nickless and A. A. Butterworth, then employed as material salesmen by Dow Chemical Co., they combined propellants 11 and 12 with various types of silicone. They finally perfected what we believe today to have been the first successful silicone aerosol product.

The fluorinated hydrocarbons had the unique property of acting both as solvent and carrier for silicone fluid, or as a thinner for silicone grease. They also acted as a propellant, so that a completely self-contained package became possible. Furthermore, these fluorinated hydrocarbons were fairly low in cost, became completely volatilized at room temperature, and are considered non-toxic under average industrial conditions. Their chief hazard actually lies only in their accidential use near an open flame where the decomposition products so produced can be highly irritating.

The First Brand Label

A concern in Erie, Pa., New Plastic Sales, first introduced one version of the new package to molders in that area under the trade name, "Slip-It." Beginning in the summer of 1948 and on into 1949, molders in the Cleveland and Erie region, at the suggestion of Nickless and Butterworth cautiously began to try the new, unproved material. Lack of proper promotion and volume sales, together with the molders' reluctance to accept such a costly product, led New Plastic Sales into failure, and the "Slip-It" label disappeared from the market.

AUTHOR'S NOTE

This is a factual history. The author will be deeply indebted to anyone who can correct or amend this article with additional facts. Such corrections will be publicly and gratefully acknowledged.

The basis for this article has been the numerous questions that we have been asked about all phases of mold releases in aerosol form.

The original "Slip-It" package, however, had been filled by the Ronor Corp., of Cleveland. In the fall of 1949, this concern introduced its own silicone aerosol to the molder under the trade name, "Ronor Silicone Mold Release." This product was distributed mostly locally to the plastics molding industry by Ronor Corp. itself during the remainder of 1949. In 1950, Injection Molders Supply Co. took over the first attempt at nationwide distribution of the original Ronor package, using that company's label. In 1951, the same product underwent another name change. The trade name "IMS Silicone Spray Mold Release" was adopted and replaced both the previous "Slip-It" and "Ronor" labels.

Chief Objection To Silicone

It is interesting to note that even before my firm took over national distribution of the original "Slip-It"-"Ronor" package, the chief objection to the use of silicone as a mold release already was well known.

Silicone, by virtue of its low surface tension is one of the best anti-stick agents ever found. When atomized from aerosols, it has the property of traveling unbelievably long distances and interfering with other industrial processes (such as painting, printing, or labeling). The simplest demonstration of this easily is made with ordinary cellophane tape.

Concurrent with the initial plan to distribute the original Ronor Silicone Mold Release, therefore, was the recognition of this positive limitation on the use of silicone where painting, plating, or other finishing operations followed molding. Accordingly, a second or companion aerosol was introduced by Injection Molders Supply Co. in 1951 under the label "IMS Liquid Stearate Spray." This release was based on the use of Cellosolve butyl stearate, and the net result was an excellent release agent that did not interfere with painting operations.

With the benefit of hindsight, as we look back on the "Liquid Stearate" package today, and its withdrawal from the market in 1952, we see that its demise was caused by inadequate promotion and lack of understanding by the molder both of the shortcomings of silicone and of the advantages of the aerosol-type mold release.

Growth Phase

The next step in the development of silicone mold releases in aerosol form represents the second or growth stage of an industry. Needless to say, the appearance of the original "Slip-It," "Ronor," and "IMS Silicone Spray" mold releases in molding shops over the country induced other concerns to enter the field.

The second package to appear was called "Bomb-Lube," and was introduced by Price-Driscoll Corp., of New York. The most interesting aspect of this particular product was that even though a silicone aerosol had already been on the market since December 1948, this company still applied for a patent on the use of such a package on March 21, 1950. The patent, carrying number 2,639,213, actually was issued on May 19, 1953! This new package appeared in a larger can with a soldered seam, and featured a low-cost plastic valve.

Other considerations aside—and we

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- ☐ Hand Lotions, Creams
- ☐ Ice Tray Desticker
- ☐ Medicated Hand Lotion
- ☐ Nasal Relief Spray
- ☐ Neomycin Foam
- ☐ Neomycin Spray
- ☐ New Hair Spray
- ☐ Non-Flammable Hair Spray
- ☐ Non-Separating Shaving Cream
- ☐ Poison Ivy, Oak and Sumac Remedy
- ☐ Run Stopper
- ☐ Sarcoptic Mange Spray
- ☐ Spray-on Protective Film
- ☐ Suntan Lotions
- ☐ Wall Cleaner
- ☐ White Shoe Polish
- ☐ Household Aerosol Products (includes such popular products as room deodorants, oven cleaner, glass cleaner, disinfectant, mildew proofer, wax polish, water repellent, etc.)
- ☐ Please add my name to your Product Bulletin mailing list.

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AA 19

are not debating product merit—it set the pattern of offering the user a cheaper price. This pattern now has been followed by so many concerns that the current user of a mold release understandably is bewildered by the parade of cut-rate cans containing silicone, propellants and thinners in any number of mystifying variations.

We believe the third commercial aerosol package to appear was an application using a silicone grease, introduced by Dow-Corning under the label, "Slipicone." This material left a greasy, heavy coating quite unsuitable for plastic molding, but well adapted to the baking, candy, and other such industries where sticking in pans and on conveyors poses a temperature problem beyond the range of vegetable and mineral oils. Price-wise, "Slipicone" was and is one of the more-costly silicone aerosols, due primarily to its high silicone content.

New Sources of Silicone

Originally, Dow-Corning was the sole source of the silicone fluids and greases used by the original concerns offering silicone aerosols. From 1946 to 1952, the market was undergoing an orderly and ethical development. However, two new concerns began to offer similar silicone fluids and the pace of expansion quickened. About 1950, the Silicone Division of General Electric began to distribute its brand; then, about 1954, the Linde Division of Union Carbide introduced a third competing line.

The field engineers of these concerns naturally looked only at the previous applications originally pioneered by Dow-Corning. Among them of course, was the packing of silicone fluids in aerosol containers for use as mold releases. Naturally, these supplier companies tried to interest new concerns in entering the mold release field, particularly using their materials as a base. The market potential actually was over-estimated.

It is difficult to see how any other growth pattern could have developed. It also is difficult to distinguish between comparable basic silicones from the different sources, advertising claims notwithstanding. The appearance of the new sources for silicones had one typical effect, however; they did not expand the uses for the material as much as they merely crowded-in on existing markets. Some price reductions have followed, but silicones remain among industry's more costly materials.

Other brands of silicone aerosols now began to appear. "Real-Ease" was offered by Borco Chemicals, of Chicago, and "Sprits" was introduced by Sprits, of New York. A sixth, "Slide," was offered by Perc E. Harms Co.; and a seventh, by Ellen Products, carried the name, "No-Stik." An eighth was named simply "Mold Release Spray," and was distributed by Plastic Material Sales Co., Fanwood, N. J. Another was called "RAM Silicone Spray," by Ram Chemicals, on the West Coast. It was packaged so as to be almost identical with another brand label already on the market both in color and design. A tenth was described as "Paralease Silicone Spray," and originated in Washington, D. C. Numerous others exist.

This almost explosive expansion of the silicone aerosol industry represents the third stage of growth, and leads to the fourth or final period representing the virtual decay of an industry. "Then the wolves take over," as one molder commented.

Market Saturation

Today, we find the silicone aerosol industry in its mature growth phase where price-cutting and constant modifications of formulas and packages are creating the utmost confusion in the minds of buyers. It is most interesting to observe the reaction of plastic molders (who make up the large percentage of customers for this type of product) to this phase of the silicone aerosol business. The molder now finds himself in the same position in relation to the selection of a mold release as his own customers so often find themselves in the choice of which brand of molded article to buy.

Every molder has observed these same patterns of pioneering, growth, and decay by various refinements of industrial piracy against his own molded products. The problem faced by the silicone aerosol manufacturer today has many similarities to that faced by the molder whose product has been aped by competitors. What is the wise course of action? Is it to cheapen your product, to imitate the imitator, or to keep up the price and quality?

The alternatives in the mold release field are more limited. We can decrease our silicone content, tamper with our propellant proportions, modify our package, and cut our advertising budgets. In general, however, we find more objections to such steps than good reasons to take them, because in every case the real losers are our customers (in this instance, the plastics molder himself).

Laboratory analysis, of course, reveals everything about competing products. Our elaborate comparison charts of all the various aerosols help up plot the nature of their contents, the type of packages, their costs and profit margins, etc. The revelations of these graphs and other factors form the basis for our own decision not to sacrifice quality just to meet cut-rate pricing.

Limited Market Handicaps

The silicone mold release problem is complicated by the fact that the silicone aerosol has a relatively restricted market. Not only are there a limited number of potential users, but any good molder knows that the use of a parting agent is at best a temporary or stop-gap measure. Indeed, in many shops where the time is taken to work the bugs out of a mold, parting agents seldom are used at all.

Furthermore, sticking in the mold may have many causes which cannot be cured by use of a mold release. Too long a plunger dwell, for example, will result in packing a mold to the point where a press can be frozen shut. Undercuts, microscopic roughness, and lack of draft also will cause sticking. Corrective steps, like proper cycling or polishing, often are taken and, in turn, eliminate the need for a mold release. Many a refractory sticking condition has been relieved merely by throwing a handful of zinc stearate or Acrowax into the material itself prior to molding. The correct procedure obviously is to make and

vent the mold so that no mold release is necessary.

Any mold release, even the cheapest, is extremely expensive for two reasons. First, the molded piece that comes from the machine just after the parting agent is applied usually is marked and often must be scrapped.* Second, the application of *any* mold release requires use of actual cycle time. That is, its application results in lengthening the molding cycle and sharply increasing the molding cost. The blunt truth is that there are relatively few cases where the use of a mold release can be justified economically or where it is absolutely necessary, and even fewer instances where the time needed to apply the mold release does not sharply increase the molding cost.

It is a most useful emergency measure, however, but not one with a market capable of indefinite expansion, or possibly even of supporting the number of concerns already in it. We can watch with interest, therefore, the final phase of the "Silicone Aerosol Story." This, of course, is the familiar pattern of price cutting, marketing difficulties, confusion on the part of the user, and ultimate decline of a certain percentage of the present suppliers who cannot survive the difficult period of complete market saturation when both their finances and ingenuity receive the severest test of all.

Corollary Developments

As any industry enters its mature phase, many related developments occur. In the case of silicone aerosols, the appearance of so-called "paintable formulas" illustrates one of them. Here, the almost miraculous release properties of the silicones are modified so that they can be used as parting agents and, yet, articles so released from the mold will accept painting, plating, or stamping. This definitely is a marginal or specialized field, and not one that will greatly expand the silicone market.

*Tests prove that some brands contain *too much* silicone, producing excessive part marking and post-application scrap. The type of valve, degree of atomization, distance from spray head, viscosity of silicone used, temperature of can at time of use, propellant proportions and other factors often are more important than the silicone content. While it does vary, silicone cost is about 10-25% of the package cost, depending on brand, price, etc.

Two entries by major chemical companies into the mold release field are "Release-a-Gen" (General Mills) and "Poly-Lease 77" (Barrett Division of General Chemical).

The first paintable package to appear was Formula S-1001, developed by Injection Molders Supply Co., using an experimental Dow-Corning Fluid made in 1953. The first commercial shipments of the new formula were made on May 18, 1954. The second appearance of such a mold release was in a special private label package developed for exclusive use by Western Electric Co.

In addition to aerosols advertised to contain silicone, several others have appeared under various trade names having no particular declaration of the contents. Typical of these is a brand of releases offered by Vinrock, Inc., of Cleveland. In addition, Barrett Chemical has issued a polyethylene-base mold release under its own label, "Poly-Lease 77 Mold Release." Other concerns have offered strippable coatings outside the province of the chemical parting agents with which we are concerned here.

Several companies also have developed silicone-type releases reported suitable for polyester and epoxy resins because they do not form gas or bubbles or cause marks on the surfaces of the parts. In general, the reason why silicone aerosols are poorly suited to low-pressure molding operations is due to the porous nature of the low-cost molds where pore-filling media are necessary. The absorbent nature and large areas of the plaster, wood, plastic, or other such mold surfaces make expensive the use of any kind of silicone. The painting and finishing almost always done on low-pressure moldings also militate against the selection of silicones in aerosol form for this field.

Another interesting development has been General Mills' recent entry into the limited mold release market with a huge advertising budget and a product called "Release-a-Gen." It was discovered that as little as one part in a million of silicone on the inside of a bowl where silicone was used as the parting agent might prevent the mix from rising. One year's research and a sizeable investment disclosed to General Mills what most of the industry already knew—that silicone's dispersion qualities bordered on the fantastic.* This is reported to have led General Mills to market a release agent of its own, believed to be compounded of a vegetable oil derivative which is specifically advertised to contain *no* silicone.

Zinc Stearate

What became of the plastics industry's old stand-by, zinc stearate? On April 12, 1954, Injection Molders

(*Continued on Page* 55)

*The use of various silicones as foam depressants was one of their early applications.

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AEROSOLS in review

DEVELOPMENT of the aerosol for inhalation therapy ranks, among major medical advances, with the introduction of the hypodermic syringe, H. R. Shepherd, president of Aerosol Techniques, Inc., Bridgeport, declares in an article on "Inhalation Aerosols" in the December issue of *Drug and Cosmetic Industry*. "Paradoxically," he continues, "there are certain types of medications which, when administered by inhalation, may displace the use of the hypodermic for the introduction of these drugs into the body. These drugs may include certain types of sera, mucolytic enzymes, and the like.

"Serious consideration should be given to aerosolizing many drugs whose efficacy is destroyed or reduced during passage through the gastrointestinal tract. Those of us with a pharmaceutical background who are interested in aerosols are understandably stimulated by the number of sound possibilities wherein the aerosolized version of the drug may replace administration either parenterally or by tablet dosage.

"... Indicative of the potential of inhalation therapy aerosols is the statistic that there are 2.5 million bronchial asthma sufferers in the U.S. and that up to six million doctors' visits occur annually for this reason. It is estimated that five million prescriptions are written each year for bronchial asthma treatment. The calculation at this time is that the market for aerosols here is $6 million."

Mr. Shepherd suggests the following factors be considered in weighing the possibilities of adapting a drug for inhalation therapy via the aerosol:

"1. The rationale of absorption of the particular medicament under consideration into the respiratory tract.

2. The lack of toxicity of the medicament under consideration. Special emphasis must be placed on the toxicity, pharmacology, pathology, and clinical investigation in proving the safety and efficacy of the particular drug.

3. Particle size of the aerosol. According to Findeisen, particles of 3 micra and above are taken completely by the tracea, the bronchial, the bronchioles, and the alveolar ducts. Particles of 1 micron radius and above are taken out by the lungs to the extent of 97% with only 3% recovered on expiration. As the radius of the particle gets smaller, particles 0.3 micron in radius are absorbed to the extent of only 35%, with 65% recovery on expiration.

4. Chemical and physical stability of the solution or suspension.

5. Solution compared with suspension of a drug. Generally it has been shown that the duration of a soluble drug in solution after inhalation falls off rapidly due to the quick absorption of the drug. This effect may be desirable in certain conditions. On the other hand, where sustained action is desired a suspension of a relatively insoluble drug which literally 'plates out' in the desired area is advantageous.

6. The economics of the aerosol inhalation units are somewhat deceptive. Although the individual unit, complete with metered valve and adapter, may be more expensive than conventional forms of therapy, consider that there are from 150 to 200 dosages in each 10 cc. aerosol vial with a 50 mg. metered valve. How can one measure, in terms of dollars and cents, the value of a drug which is effective in affording immediate or sustained relief for the particular disease treated?"

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ALSO in the December *Drug & Cosmetic Industry*, in the "Packaging and Selling Column," the advent of the new Chanel purse flacon on the market is described as "just about completing the entire evolution of the aerosol to a successful conclusion in the perfume industry."

"When the aerosol was first used for dispensing fragrance—about two years ago—there was a great deal of sober head shaking by certain people in the perfume business. These conservatives were chiefly disturbed by their opinion that the aerosol package, at the time predominantly a successful dispenser of purely utility products such as household sprays, insecticides, shaving cream, or hair sprays, could *hardly* be identified with so delicate and ethereal a thing as a fragrance in so important a way as a package.

"This concept, in the higher and more rarefied atmosphere of perfume thinking, that aerosol is for the practical product in everyday household use, has been gradually disappearing as the cosmetic and perfume people presented to the country an increasingly beautiful and varied assortment of packages.

"We think that this Chanel aerosol purse flacon with metered valve, is the final answer to those former critics, namely, that an aerosol package *can* be both practical and beautiful, with repect to both fashion and prestige. . . ."

•

BECAUSE the retail pharmacy has been (and will continue to be) one of the major outlets for aerosol products, the pharmacist should have a sure knowledge of the principles of operation, component parts, and the formulation of these products. So de-

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clares Dr. John J. Sciarra, assistant professor of pharmaceutical chemistry at St. John's University College of Pharmacy, in the November issue of the *Journal of the American Pharmaceutical Association*. Dr. Sciarra continues: "This information will enable the pharmacist to answer intelligently some of the questions the public might propose to him as well as to inform the public as to the many advantages of products in aerosol form."

Dr. Sciarra's article contains a general discussion of the operation of an aerosol container, plus brief data on the various propellant systems and components for the aerosol package.

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AN excellent discussion of the relative irritation characteristics of a number of perfuming materials used in aerosols is included in the Oct. 25 issue of *The Pharmaceutical Journal*, English trade periodical. Written by W. C. Bothfield, the article points out that many perfume ingredients, which are usually stable and suitable in an orthodox product, become quite unstable when introduced into an aerosol propellant.

"Perfume compounds are very complex mixtures of chemicals with widely varying properties and each of these can be influenced by the components of any aerosol formulation. Over a long storage period it is possible for a perfume to become so modified as to be unrecognizable. In addition to being compatible, the perfume ingredients should cause no corrosion of the container, and not give rise to irritation either of the skin or of the mucous (in the event of inhalation). The choice is also governed by conditions within the aerosol package. Every aerosol product presents its own perfuming problem, and having once been established, the formulation must *not* be modified or altered without suitable stability tests.

"Having so frequently mentioned that many materials cause irritation of the skin or tend to discolor toilet products, it will be useful to overcome them in more detail. The intensity of the effect depends on the amount of the offending agent present and although many products are mentioned as possible irritants or possible colorants, that does not prevent them from being used in formulations in small proportions. Thus with the skill that comes from experience, the perfumer will discriminately use many materials which are mentioned as possible sources of trouble.

Essential oils known to cause some irritation (not necessarily acute) when present in creams include: Bitter almonds, caraway, cassia, cedarwood, celery, cinnamon, cloves, cypress, eucalyptus, ginger, emongrass, lime, mace, neroli, sweet orange, patchouli, peppermint, pimento, pine, rosemary, sage, sandalwood, sassafras, thyme.

Synthetics known to cause irritation in creams include: Acetaldehyde, aldehydes C8, C20, aubepine, benzilidene acetone, benzyl alcohol, borneol, bromstyrol, butyl alcohol, cinnamic aldehyde, citral, citronellal, cumminic aldehyde, diethyl phathalate, dimethyl benzyl carbinol, ethyl acetate, ethyl alcohol, eugenol, heliotropine, hydroxy citronellal, *iso*-propyl alcohol, menthol, methyl cinnamate, methyl heptine carbonate, methyl phenyl acetaldehyde, musk xylol, phenyl acetaldehyde, thymol.

Essential oils known to cause discoloration in creams include: Bay, birch tar, cassia, cedar, cinnamon, cloves, lavender, neroli, sweet orange, patchouli, pimento, sage, vetivert. It is safe to presume that most of the absolute oils and gum resins will cause discoloration in creams.

Synthetics known to cause discoloration in creams include: Anisic alcohol, benzilidene acetone, benzyl alcohol, benzyl *iso*-eugenol, cinnamic aldehyde, citral, eugenol, heliotropine, model, *iso*-eugenol, methyl anthranilate, nerolin, nitro musks, phenyl acetic acid, quinolene, skatol, vanillin (ethyl and methyl).

Essential oils known to have irritating effects in toilet soaps include: Bitter almonds, cassia, cinnamon, cloves, estragon, eucalytpus, ginger, lemon, lemongrass, lime, mace, orange, patchouli, peppermint, pimento, pine, rosemary, sage, sandalwood, sassafras, thyme.

Synthetics known to have irritating effect in toilet soaps include: Acetaldemyde, aldehyde C8, C20, aubepine, benzilidene acetone, benzyl alcohol, borneol, bromstyrol, butyl alcohol, carvacrol, cinnamic aldehyde, citral, citronellal, cumminic aldehyde, diethyl phthalate, dimethyl benzyl carbinol, ethyl acetate, ethyl alcohol, eugenol, heliotropine, hydroxy citronellal, *iso*-propyl alcohol, menthol, methyl cinnamate, methyl heptine carbonate, methyl phenyl acetaldehyde, musk xylol, phenyl acetaldehyde, thymol.

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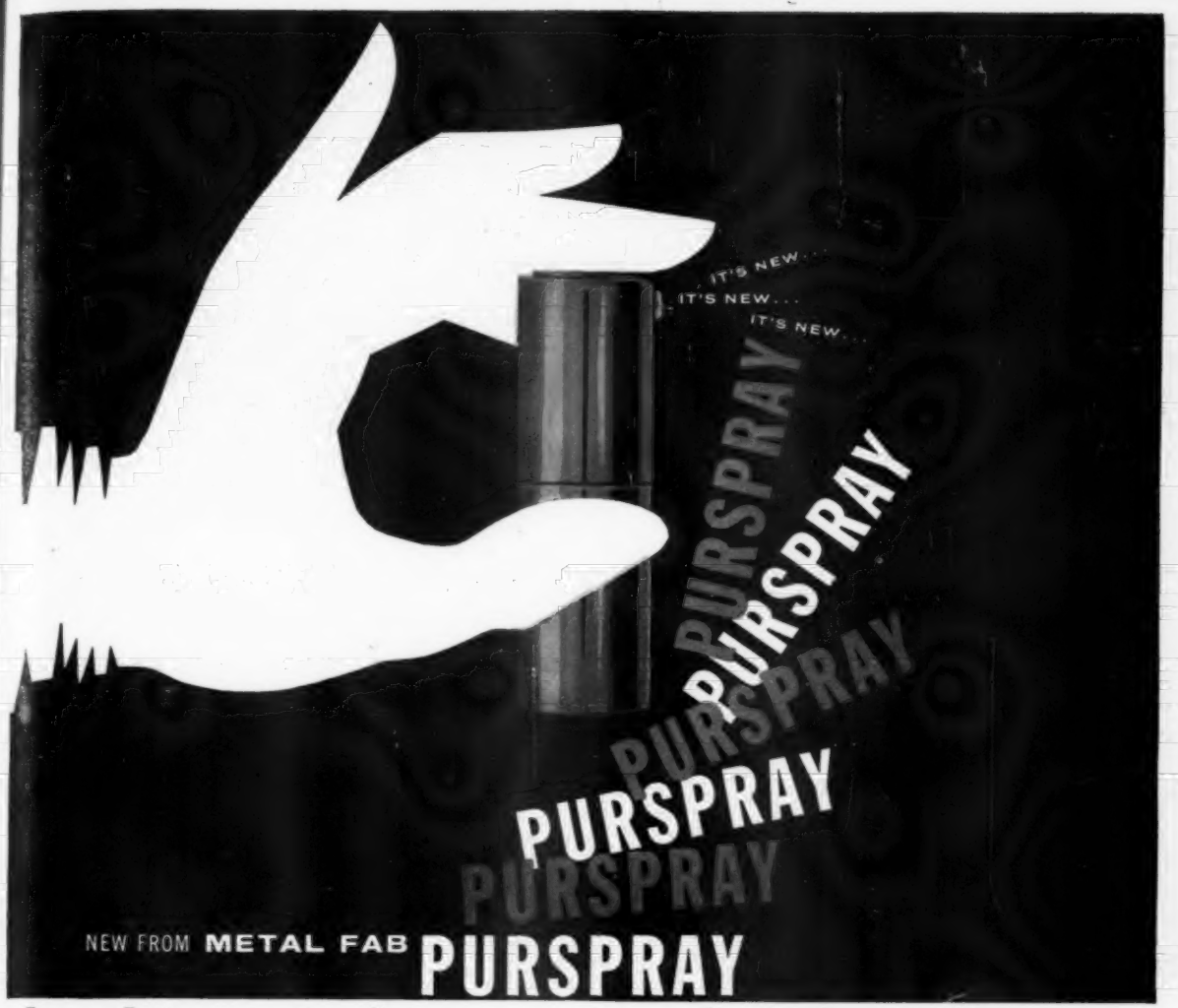
A PREDICTION of what the next few years will bring to the aerosol industry, based on a check of

(*Continued on Page* 58)



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SPECIFICATIONS		
Contents	10 cc	10 cc
Height	2½"	3"
Diameter	½"	⅞"
Cartridge	Stainless Steel	Glass
Finishes	Polished Brass, Textured, Brushed, Enameled, Silk Screened, Debossed, Embossed or to your specifications.	

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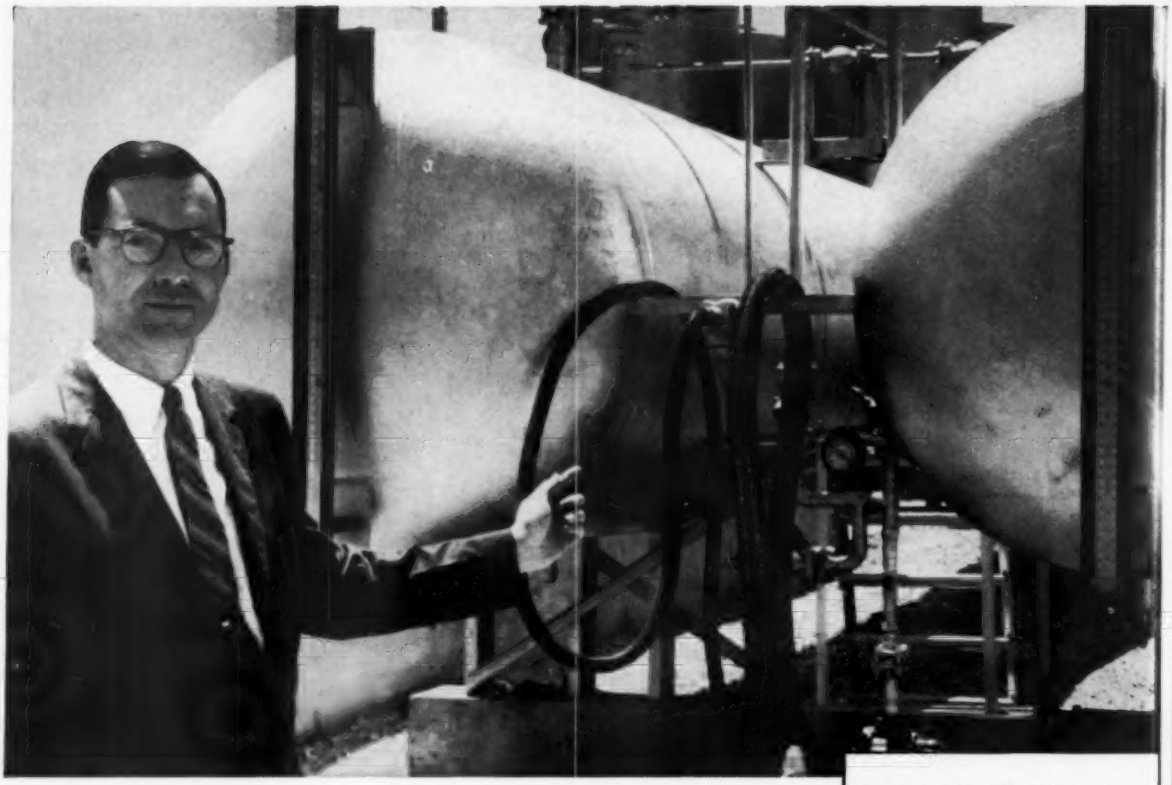

ROBERT WRIGHT, JR., was born in New Jersey and attended Lehigh University. After three years as a lieutenant in the U. S. Army Ordnance and Signal Corps during World War II, he returned to Lehigh, where he received his Bachelor of Science degree in industrial engineering in 1947. After graduation, Bob joined Du Pont as Chemical Supervisor in the Grasselli Chemicals Department. He held a variety of engineering and technical jobs for Du Pont until his sales assignment in "Freon" Products Division. As a salesman for "Freon" in Du Pont's Central District, Bob has put his broad knowledge of the chemical industry to work for custom loaders and aerosol marketers in his territory.

"My customers can call on Du Pont services to help their business grow"

says Robert Wright, Jr., of Du Pont

"If it concerns aerosols—no matter what the problem—my customers can call on any or all of Du Pont's comprehensive services to help them," says Bob Wright, sales representative for Du Pont's "Freon" Products Division. "Here's how many of these services were put to work for a customer in my territory who was expanding his activity in aerosols.

"To give him an economical and effective Freon* propellent storage and handling system, Du Pont engineers designed a bulk-storage layout tailored to his needs. The 'Freon' Products Laboratory helped him develop his products. A seminar, held for his management personnel, gave them information about aerosol marketing, manufacturing, laboratory techniques, quality control and safety procedures. In addition, training at Du Pont's laboratory helped make his operating personnel more efficient."

If you're a loader or marketer of aerosol products, you can take advantage of the sales-building services which Du Pont offers. In marketing, Du Pont surveys help you expand sales of your products. In national advertising and promotion, Du Pont works continuously to build markets for aerosols, bringing you a steady flow of new customers.

In addition, Du Pont's know-how and experience can help you with aerosol development or production problems. And in manufacture of "Freon", Du Pont offers aerosol propellents recognized throughout industry for their quality, performance and properties. Du Pont maintains the industry's fastest propellent delivery schedules from three plants and a country-wide network of warehouses.

If you have a problem in any area of aerosol development, production or marketing, call or write the Du Pont office nearest you. And be sure you buy "Freon" for all your propellent needs.

FREON® propellents

'Freon and combinations of Freon- or F- with numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon propellents.

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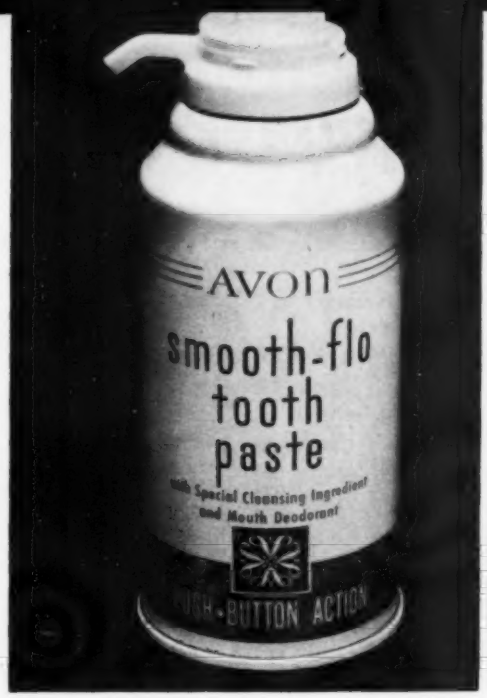
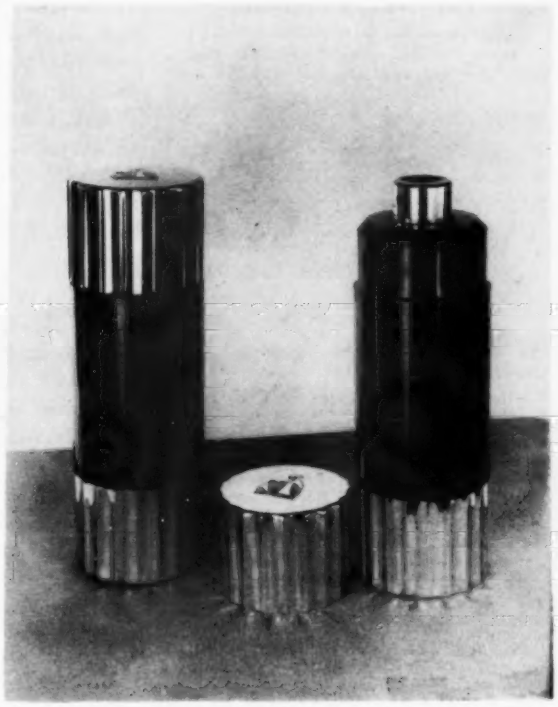


Avon Products, New York, has joined the aerosol toothpaste parade with **Smooth-Flo Tooth Paste,** which will retail for 89 cents. The product is packaged in a six-ounce Crown "Spra-tainer," fitted with a Precision nitrogen valve.



Lanvin Parfums, New York, is marketing its cologne in aerosol form in a new three-ounce container manufactured by the Cosmetic Container Division of Scovill Manufacturing Co. and designed by Cartier. Valve is by Valve Corp. of America, and bottle by T. C. Wheaton. Cap and base are golden polished brass with fluted sides and Lanvin's trademark appears on the top of the cap.

Easy-Off Push-Button Window Spray is a new product of the Boyle Midway-Division of American Home Products Corp., New York. The 15-ounce can, retailing for 49 cents, is being advertised nationally on three network television shows. It is designed for glass, chrome and porcelain.

Super-Flite Aircraft Finish Spray, in 38 colors, is a product of Cooper Industries, Chicago. Retailing at $1.89, it comes in cellulose nitrate dope, acetate butyrate dope, and synthetic enamel.

NEW PRODUCTS AND PACKAGES

NEWS of Pressure Packaging

Texas Firm Names President

E. L. Lorehn has been named president of Texas Aerosols, Inc., of Houston, said to be the first contract, aerosol fillers in the Southwest. Mr. Lorehn succeeds T. H. Coulter, who resigned the office to accept a position with the Dumas Milner Corp., a Jackson, Miss. pharmaceutical house.

E. L. Lorehn

Mr. Lorehn's background includes varied executive experience in corporate management and manufacturing in several Southwestern industries. He will supervise planning and construction of a new building beginning on January 1. The new structure will provide the company with three times its present space and completely modern facilities.

Texas Aerosols, founded about a year ago, markets no product line of its own, but is equipped with laboratory facilities to perform all necessary formulation research, in addition to all the usual custom filling services.

Mr. Lorehn predicted a prosperous future for the young firm. "Our success during the first year of our existence has convinced us that a tremendous potential for aerosol packaging exists now in the Southwest, and that this area eventually could even *set the pace* for the national industry!"

•

New British Filler

A new British aerosol filling company has been organized in London. Called Serta Ltd., the new firm has installed a Vapsol cold-filling plant and has acquired the right to use and market valves made by the Vapsol company of Milan. The company's filling line is reported to be the first such line to be set up in Great Britain, and will have a capacity of about 25,000 two-ounce containers or 20,000 six-ounce containers per week.

The plant can fill as many as four different products at one time. Reusable screw-on valves for glass bottles, part of the Vapsol line are also available.

Managing director of the new company, which is located at 25 Chatham Place, London E. 9, is L. Resta, who since 1956 has worked on development of powder valves with F. Galeazzi, inventor of the Vapsol powder valve. Serta, incidentally, has announced an intention to specialize in powder filling, although it will also fill conventional liquid and foam aerosols.

•

Rexall Signs Peerless Pact

Rexall Drug Co., Los Angeles, leading aerosol marketer, will add a comprehensive line of animal health products to its retail line. Under the terms of an agreement signed with Peerless Serum Co., St. Louis, Rexall will market that company's products in its 1,600 retail outlets.

The Peerless line includes biologicals, antibiotics, pharmaceuticals and steroids, and Peerless expects to double its 109 products within 12 months.

Casey Named by Mojonnier

Thomas J. Casey has been named general sales manager of Mojonnier Associates, Franklin Park, Ill. manufacturers and distributors of aerosol filling machines.

An executive in the packaging machinery industry for the past eight years, he will direct the firm's overall marketing program. Mojonnier recently was acquired by the Kartridge-Pak Machine Co. which produces meat and food processing machines and packaging equipment for the meat, dairy and other food processing industries. It is operated as a Division of Kartridg-Pak, which is a wholly-owned subsidiary of Oscar Mayer & Co., 75 year-old meat processing firm.

For the past year Mr. Casey has been president and a director of Fitzpatco Corp., a distributing and servicing organization for imported chemical processing machinery. Prior to that, he was associated with the Arthur Colton Co., packaging machinery manufacturer, as district sales manager. He attended the graduate school of industrial management at New York University and was graduated from Hofstra College and the U.S. Merchant Marine Academy.

Hair Sprays Found To Be Harmless to Animals

Extensive inhalation experiments using laboratory test animals have revealed no lung damage caused by the inhalation of hair sprays, two researchers from the Industrial Bio-Test Laboratories, Northbrook, Ill., told the annual scientific section meeting of the Toilet Goods Association in New York last month. Doctors Joseph Calandra and John A. Kay made the tests to check on findings of three St. Louis doctors (*Aerosol Age*, May, 1958) which indicated that hair sprays could be the cause of pulmonary syndromes, pulmonary alveolar proteinosis, and pulmonary theasaurosis.

For their tests, Drs. Calandra and Kay used two commercially available aerosol sprays, one consisting of PVP-vinyl acetate copolymer, an ethyl alcohol vehicle, and propellant, the other a refined bleach shellac plus the ethyl vehicle and propellant. Each of these formulations also contained minor amounts of perfumes, emulsifiers, etc. Two other incomplete formulations were tested, each lacking a principal ingredient.

Guinea pigs, the animals used, were placed in an air-tight exposure chamber and subjected to a 15-minute burst three times a day for 45 and 90-day periods. The authors reported that the only really significant medical finding was the sporadic occurrence of pneumonia in all groups of animals. No matter what spray was inhaled, the mortality rate was about the same for all groups.

The authors concluded from this that the pneumonia could probably be attributed to periodic chilling of the aerosol propellant, and that the tests provided *no* histological evidence of pulmonary alveolar proteinosis.

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IF ONLY capable hands could relieve you of a single chore . . . what a godsend that would be! Ah, but there *are* capable hands and minds ready and eager to assist you. In the realm of fragrance–which is our particular field–we have a large and experienced staff of experts richly skilled in the art of creative perfuming waiting to help you. Given your sanction, they could immediately take full responsibility for the recommendation or development of fragrances designed to meet *your* precise needs . . . *your* limits of cost . . . *your* specifications of quality. The burden of performance–*with complete satisfaction to you the only acceptable goal*–would then be ours. And with reputation to uphold, we could not fail. So, here, Mr. Busy Man, if you want substantial relief from at least a part of your responsibilities, is your opportunity. Call upon FRITZSCHE perfume specialists to perform, in your behalf, the fragrance miracles of which they are so very capable, and reduce, by one, the major problems that crowd your busy day. Why not 'phone or write us *now*, while the thought is fresh in mind?

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Steinbock Joins ATI

Appointment of Marvin Steinbock as director of production at Aerosol Techniques, Inc., was announced last month by the Bridgeport aerosol packaging and development company. He will be in charge of all processing at Aerosol Techniques' recently expanded main plant in Bridgeport, and will work closely with the new laboratory installations.

The new production director was formerly at Powr Pak-ConnChem as vice-president in charge of manufacturing and previously with Connecticut Chemical Research Corp. in a similar capacity. For more than six years he was chief of production engineering for Revlon. During 1944-1949 Mr. Steinbock was plant manager of the Penicillin Division of Hayden Chemical Corp. and was also in charge of that company's antibiotic manufacturing operations overseas.

During World War II Mr. Steinbock did substantial developmental work in plastics for the U. S. Stoneware Co.

A native of Amityville, L. I., Mr. Steinbock got his M. E. degree at New York University in 1936. An expert in all types of mechanical processing, he foresees substantial changes and improvements in the techniques of aerosol packaging. Much of today's cold filling, he believes, will be succeeded by new, more efficient and less expensive pressure filling.

•

Snyder Corp. Changes Name

The corporate name of the parent company of Arthur Colton Co., Madison, Wis. has been changed to Snyder Corp. by a recent action at the corporation's annual meeting.

According to Kenneth B. Hollidge, executive vice-president of Arthur Colton and secretary of the parent corporation, the name was changed from Snyder Tool & Engineering Co. to Snyder Corp. to avoid misconceptions about the type of equipment the 33-year old parent company manufactures. The main products of Snyder Corp. are special machine tools and automated metalworking equipment, and have been since 1935, Mr. Hollidge explained. No changes in the corporation's product lines, policies or methods of operation will be made as a result of the name change, he said.

•

Coneybear Heads SCC

Savery F. Coneybear, director of new product development of the Colgate-Palmolive Co., is new president of the Society of Cosmetic Chemists for 1959. New president-elect is Herman J. Amsterdam, director of cosmetic research and development for van Ameringen-Haebler, New York, who will assume his office in 1960.

Robert A. Kramer, vice-president of Evans Chemetics, continues as secretary through 1959 and Lester I. Conrad, executive vice-president and technical director of American Cholesterol Products, was elected treasurer. Newly-elected directors are Dr. Sophie L. Plechner, senior pharmaceutical research chemist with Carter Products; and Dr. Stilman R. Goff, research director of the Toni Co.

•

Herzka Visits Barr Plant

British aerosol chemist Alfred Herzka (right) studies containers for nitrogen-propelled aerosol dentifrice

at G. Barr and Co., Chicago, major aerosol contract filler, during an in-plant tour conducted by George Barr, company president (left). Mr. Herzka, head of aerosol development projects for The Metal Box Co., Ltd., operation at Alperton, Middlesex, England, visited Barrs' plant and laboratories during his tour in the U. S. to observe latest developments in pressure packaging technology and production. Mr. Herzka is the author of *Pressurized Packaging (Aerosols)* to be published in the U. S. in December. A graduate of London University, Mr. Herzka is an associate of the Royal Institute of Chemistry and honorary editor of the British edition of the *Journal of the Society of Cosmetic Chemists.*

Kent to "Freon" Promotion

Norman W. Kent has been named to the newly created position of sales promotion manager of the DuPont Company's "Freon" Products Division in Wilmington, while Robert B. Sangston takes over Mr. Kent's present assignment as manager of the division's Central District office in Chicago.

At the same time, James Gay Gordon III, for the last four years sales representative in the New York area, was appointed to succeed Mr. Sangston as sales supervisor in the Eastern District office in New York City.

Mr. Kent, first joined DuPont in 1933 as a chemist at its Jackson Laboratory, Deepwater Point, N. J., and from 1936 to 1942 was assigned to the sales service section of the company's Dyestuff Division office in Chicago. He became Eastern District manager for the company's Petroleum Chemicals Division in mid-1947 and was in its planning and technical sections in Wilmington from mid-1950 until mid-1954 when he joined the "Freon" Products Division, first as a sales representative and a year later as manager of the Central District.

Mr. Sangston joined the "Freon" Products Division in 1951 as a sales representative on refrigeration equipment manufacturer accounts. For the last three years, he has been sales supervisor of the division's Eastern District office.

Mr. Gordon joined the "Freon" Products Division in mid-1954 as a sales representative and for the last four years has been assigned to the Eastern District.

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Machinery which does everything you've ever wanted your plant to produce for you . . . flexible, fast, under complete control and direction.

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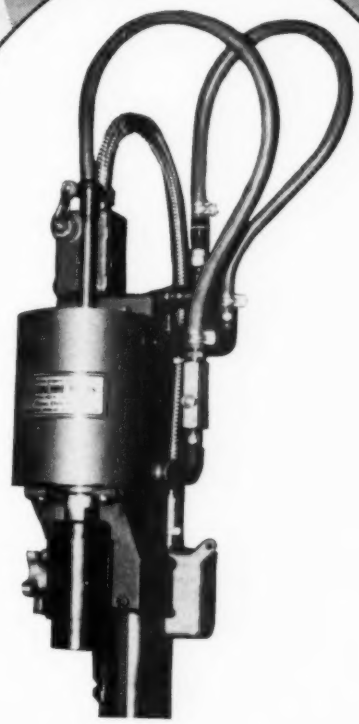

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Pomerantz Talks to PMA

Some pharmaceutical products which in the past have been only dreams have come into being through the development of aerosols, Edwin Pomerantz of the technical service department of Chas. Pfizer & Co., Brooklyn, told the midyear meeting of the Pharmaceutical Manufacturers Association in New York last month.

In this dream category Mr. Pomerantz placed spray-on bandages and a new method for diagnosing lung cancer. He told a production conference of the PMA that there had been an increase of 155% of pressurized medicinals from 1956 to 1957, while the total aerosol growth for that period was 22%. He noted that the total dollar market for which aerosol-applied pharmaceuticals could be sold will probably be somewhere in the vicinity of $200 million.

Also included in Mr. Pomerantz's paper was a discussion of the role of nitrogen and other propellants in pharmaceutical packaging, as well as an outline of his ideas on the importance of the metered valve in future aerosol development.

•

Penick Moves N. Y. Office

The general offices of S. B. Penick & Co. and its New York Quinine & Chemical Works Division moved to 100 Church Street, New York 8, N. Y. on Jan. 1. The move was made to modernize the company's facilities and to consolidate its operations. Telephone numbers will remain the same.

Since 1940 Penick has been located at 50 Church Street, where NYQ joined the parent company in 1951.

A historical coincidence has been disclosed in connection with the new location. Penick's first offices in New York City, established in 1915, were located at 45 Barclay Street. That building occupied part of the site on which 100 Church Street now stands.

•

Pennsalt Names Haynes

Merle G. Haynes has been appointed by Pennsalt Chemicals Corp. as manufacturers' representative for the company's line of "Isotron" refrigerants in the nine-state West Coast territory. His headquarters will be in Berkeley, Calif.

Mr. Haynes, a veteran of 36 years' experience in the refrigeration field, will have as his territory the states of California, Oregon, Washington, Colorado, New Mexico, Montana, Idaho, Wyoming, and Utah.

•

Seymour Appoints Spada

Richard T. Spada, former regional sales manager of Dewey & Almy Chemical Co., a

Richard T. Spada

division of W. R. Grace & Co., has become an associate and vice-president in charge of marketing for Seymour of Sycamore, Inc., Sycamore, Ill., manufacturers of "spray pack" paint specialties. He is a member of the board of directors of the Sales-Marketing Executives, Inc. of Chicago, and the secretary of the National Institute of Commercial Engineering.

Scovill Names S. T. Williams

The Scovill Manufacturing Co., Waterbury, Conn., has announced the election of Selden T. Williams as president and general manager. Mr. Williams, formerly president of A. Schrader's Son Division, succeeded William M. Goss, who retired.

Scovill manufactures aerosol valves, through its Schrader Division, and specialty-type aerosol cologne containers, through its Cosmetic Container Division.

•

Matchabelli Appoints Dalebout

Prince Matchabelli, Inc., New York, has announced the appointment of Jerry Dalebout as field sales manager for 11 western states, with headquarters in Los Angeles.

A native of Salt Lake City, he was with Revlon in the western part of the country for four years. Two years of that time he was Revlon's Northwest district sales manager, which position he resigned in the past year to become general sales manager for Colonial Dames Cosmetic Co.

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Announcement is made that

van Ameringen-Haebler, Inc. of New York and Polak & Schwarz N. V. of Zaandam, Holland

have combined their interests and will operate as divisions of a New York parent company to be known as

International Flavors & Fragrances Inc.

The identities of these two long-established firms will be retained and each will continue to serve its customers in the same manner as in the past.

By operating in conjunction with each other, they will have development, manufacturing and distributional facilities in fifteen countries, through wholly-owned subsidiaries in North and South America, Europe, the United Kingdom and South Africa.

As a result both firms will be able to supply their products and services on a greatly expanded and more effective basis.

van Ameringen-Haebler
A Division of International Flavors & Fragrances Inc.
521 West 57th Street
New York 19, N. Y.

Polak & Schwarz International N.V.
A Division of International Flavors & Fragrances Inc.
Zaandam
Holland

Creators and Manufacturers of Flavors, Fragrances and Aromatic Chemicals

Meshberg Visits Europe

Phillip Meshberg, president of Emson Research, Inc., Bridgeport has just returned from a three-week business trip to Europe. While there, he visited business associates in Germany, Italy, France, Switzerland and England.

In the photo above, Mr. Meshberg (left) is seen talking to his partner, Karl Huber, of Emson Aerosols Gmbh. in Karlsruke, Germany. Mr. Meshberg, who holds patents on many components used in packaging aerosols, including the famous Emson metered valve, will make these parts available through his several companies in various European countries. He has also announced plans to import some types of packaging materials not readily available in this country at this time.

•

Colgate to Acquire Wildroot

Colgate-Palmolive Co., and Wildroot Co., last month announced an agreement in principle for Colgate to acquire Wildroot early in 1959. Subject to various conditions, which were expected to be settled within a matter of weeks, all outstanding shares of stock of Wildroot are to be exchanged for Colgate stock. The first report indicated that the transaction would be consummated upon completion of the Wildroot year-end audit.

The number of shares of Colgate stock to be issued for the Wildroot stock, not yet determined, will be based primarily on the value of Wildroot's net assets as of December 31, 1958.

Wildroot, the maker of Wildroot Cream Oil Hair Tonic, the largest-selling hair tonic in the U. S. maintains its offices and factory at Buffalo, New York. Its Canadian subsidiary is located at Fort Erie, Ontario.

Wildroot management, in an announcement to employees issued December 19, stated that they expect operations to continue as a subsidiary of Colgate.

Wildroot was established in Buffalo in 1911 and the principal stockholders are residents of that city. Harry J. Lehman is president; Robert E. Schwartz, executive vice president and general manager; Albert E. Ritchie, J. Ward Maurer, Harry J. Lehman, Jr., Edward J. Pempsell and Orlo D. Wheaton, vice-presidents; Welles V. Moot, secretary; Myron G. Lehman, treasurer; and LeRoy H. Hurlbert, assistant secretary.

•

De Elorza to Executives Group

John de Elorza, president of Old Empire, Inc., Newark, N.J., has been elected to the Young Presidents' Organization, a group consisting of presidents of corporations doing in excess of $1 million business annually. Executives elected to the group must also have attained their presidency prior to their 40th birthday.

Mr. de Elorza, who is 39 years old, has designed and developed many cosmetic and aerosol specialties for national firms. He graduated from Rutgers University in 1949, and is also a member of the National Sales Executive Club, North East Oil Chemists Club, Cosmetic Industry Buyer's Assn., Packaging Institute, and is a former president of the National Association of Private Brand Manufacturers. His firm, which was founded in 1939, manufactures and packages aerosols for private brand marketing.

•

Voorhees Jr. Joins Ungerer

Kenneth "Garry" Voorhees, Jr., has joined the staff of Ungerer & Co., New York, N. Y., after having served with the Armed Forces.

Mr. Voorhees continues the family lineage, being a great-grandson of W. P. Ungerer who founded Ungerer & Co. in 1893, a grandson of F. H. Ungerer, and the son of the president, Kenneth G. Voorhees.

Prior to serving in the Armed Forces, Mr. Voorhees spent considerable time in several manufacturing departments at Ungerer's Totowa, N. J. plant.

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for aerosols squeeze bottles garden sprays

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Capillary sizes for drop-by-drop dispensing	Special types for Fire extinguishers, Food Aerosols

Lab report furnished with each batch

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Babbitt Buys Antell

B. T. BABBITT, INC., New York, and Charles Antell, Inc., Baltimore, last month jointly announced the signing of an agreement for Babbitt to purchase for cash the assets, trade names, and trade marks of Charles Antell, and to purchase Charles Antell, Ltd. of Canada. The closing was effective December 31.

The Charles Antell company was organized in 1950 and pioneered the use of lanolin in hair products in one of the most spectacular television and radio saturation campaigns of the decade. Among the Charles Antell products to be manufactured and marketed by the 123-year-old Babbitt firm are the "Formula 9" Hair Conditioners, liquid shampoos and hair sprays.

Marshall Lachner (left) congratulates A. N. LaBelle on his new appointment.

At the same time, Marshall S. Lachner, Babbitt president, announced that A. N. LaBelle has been elected a vice president of B. T. Babbitt, and will be in charge of the new Charles Antell Division. Mr. LaBelle has held various executive positions with the Colgate-Palmolive Co. and for the past 10 years has been with Lambert-Hudnut, the toiletry and cosmetic division of the Warner-Lambert Pharmaceutical Co., where he was a director of sales.

With the acquisition of the multimillion dollar line of Charles Antell products, Mr. Lachner stated, "This purchase is another step in Babbitt's long range policy of diversification. It is clearly indicative of our belief that our production facilities and marketing set-up are geared to handle additional products chosen not only for their present acceptance but also for their growth potential. Further, we shall continue to develop new products through our continually expanding research program."

•

Bishop to Repackage Line

Hazel Bishop, Inc., New York, has announced that its line of cosmetic products is being repackaged and expanded as part of the company's increased sales effort. Robert G. Urban, new president, declared that the company's products will appear in redesigned packages which stress "the new look of lushness and elegance that from now on will be a 'Hazel Bishop' trademark."

He also reported that the company's research department is completing work on four new cosmetic product lines which are expected to be ready for full-scale marketing in about six months.

Crown Can Names Hartung

Crown Cork and Seal Co., Philadelphia, has appointed Alfred L. Hartung, manager of can sales for the company's Midwest sales region.

Mr. Hartung joined Crown on Nov. 1,

Alfred L. Hartung

and has been associated with the canning industry in important sales management and product development capacities for the past 25 years. From 1931 to 1947 he served as a district sales manager of American Can Co. In 1947 he commenced an eleven year affiliation as sales manager, general line, with the National Can Co.

At the same time Crown announced the appointment of G. R. Ludwig as manager of closure sales for the same region.

National Packaging Show, Heads AMA '59 Program

The American Management Association last month announced an expanded meeting program in the packaging field. Two conferences, an exposition, and 17 small-group meetings on packaging subjects have been scheduled for the first half of 1959.

Highlight of the schedule is the AMA's 28th National Packaging Exposition, which will be held at the International Amphitheater in Chicago, April 13-17; in conjunction with the AMA National Packaging Conference at the Palmer House, April 13-15.

A special conference on plastic packaging materials will be held at the Biltmore Hotel in New York on Jan. 21-23, and the properties, processing, and applications of specific plastic materials and the marketing aspects of plastic packaging will all be discussed. Also on the program for this meeting is a panel discussion on modern methods of making rigid containers and of decorating plastic materials.

Smaller meetings planned for the first six months of 1959 will be of two types: workshop seminars, small-group sessions for discussion and exchange of experience, and orientation seminars, slightly larger classroom-style instructional meetings. Most of them will be at AMA headquarters in New York. An orientation seminar on the administration and organization of industrial packaging and two workshops, dealing with the preparation of specifications for industrial packaging and the packaging of replacement parts, will be held at the LaSalle Hotel, Chicago, March 16-18.

Topics and dates of orientation seminars scheduled for New York are as follows: the economics of packaging machinery, Feb. 9-11; applications of quality control to packaging, May 11-13; packaging with polymeric materials, May 25-27; packaging management, June 3-5; and packaging operations abroad, June 24-26.

These workshop seminars will meet in New York: packaging line layout, Jan. 14-16; writing packaging specifications for glass and closures, Feb. 11-13; high-speed can packaging, Feb. 11-13; coordinating product and packaging, Feb. 11-13; coordinating product and package development, April 27-29; the role and responsibility of the packaging engineer, April 27-29; packaging the new product for maximum impact at retail, May 4-6; liabilities and legal aspects of packaging, May 13-15; package redesign, June 1-3; and cost reduction in packaging, June 3-5.

Atlas Calls Aerosol Pharmaceutical Outlook Bright in '59

BY the end of 1960, the aerosol industry will be producing an annual 25 million units of pressurized pharmaceutical products—more than four times as many as were produced during 1957. This was a prediction made late last month by Douglas Atlas, vice-president of G. Barr & Co., Chicago, one of the country's largest aerosol custom fillers. Mr. Atlas estimated that the 1957 total of nearly six million will have doubled in 1958, and that about 17 million units will be produced in 1959.

"Aerosol technological advances have proved to pharmaceutical manufacturers the practicality of 'translating' their products into the convenient aerosol form in which the product and its package are so uniquely combined," Mr. Atlas stated. He explained that aerosol packaging often requires re-formulation of the basic product in a combination with a liquefied or compressed gas which propels the product out of the container.

"Anaesthetics, antibiotics, antiseptics, inhalants, nasal sprays, and pediatric medicines are among the pharmaceuticals that will benefit most from the advantages of pressure packaging," Mt. Atlas reported. "A major advantage of aerosol drugs is that packages are non-contaminable — nothing can get into or out of the airtight containers. Equally important is the advantageous ease of dispensing and application."

He pointed out other special advantages for various types of aerosol pharmaceuticals:

Topical applications, such as surface anaesthetics and antiseptics, can be applied without physical contact to the area. Inhalants and nasal sprays actually improve in function in aerosol form. In pediatric feeding, pressure packaging provides neater, easier dispensing of viscous material, measured dosage made possible by metered dispensing valves, and a longer shelf life for products characteristically chemically unstable.

Mr. Atlas said the trend to pharmaceuticals in aerosol form is equally important for prescription and for over-the-counter products, and emphasized that the translation of any pharmaceutical into push-button packaging must provide a functional improvement in the product. "Otherwise," he said, "an aerosol drug would be a purposeless gimmick."

•

SCC Lists Coming Programs

The New York Chapter of the Society of Cosmetic Chemists last month announced the guest speakers for its first two dinner meetings in 1959. The Jan. 7 meeting will be addressed by Dr. Donald H. Powers, director of toiletries and cosmetics research, Warner-Lambert Research Institute, who will speak on the use of laboratory tests as the basis of accurate market testing of products. He has titled his talk "Hope or Performance." Dr. Powers, a former president of the S.C.C., is responsible for much original research and has directed numerous product developments in permanent waving and other hair preparations.

Dr. Arnold J. Lehman of the Food and Drug Administration has accepted the society's invitation to address the meeting of Feb. 4. A pharmacologist and toxicologist, he has been, since 1946, director of the Division of Pharmacology, Food and Drug Administration. His topic, "Drugs and Cosmetic—Should They Mix?", is a significant one because of the present trend toward the use of physiologically active materials in toiletries and cosmetics. Dr. Lehman will cite examples to emphasize the hazards of wide-spread use of potent drugs.

•

L. P. Sperry Is Dead

L. P. Sperry, former chairman and president of the Scovill Manufacturing Co., Waterbury, Conn., died recently at 75. He was former chairman of A. Schrader's Son, Inc., Brooklyn, and of the Hamilton Beach Manufacturing Co., Racine, Wis. both subsidiaries of Scovill.

Mr. Sperry was named board chairman in 1955, and retired in November of last year.

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Equipment–Processes–Bulletins–

Precision Announces New "Upside-down" Spout and Valve

A new spout and valve, specially designed for toppings and foam products, was introduced last month by the Precision Valve Corp., 700 Nepperhan Ave. Yonkers, N. Y. The new "upside-down" assembly has a hinged spout which permits quick and easy cleaning of both valve and spout after using without having to remove it from the container. This is said to be the first completely sanitary one piece non-metallic assembly that may be cleaned after each usage with just a swish under the faucet. This new Precision "upside-down" spout and valve is in the same price range as current assemblies.

ICC Regulation Summary

Pennsalt Chemicals Corp., 3 Penn Center, Philadelphia 2, Pa., has announced the availability of a new series of charts summarizing "Interstate Commerce Commission Regulations Pertaining to Aerosols." The information, in booklet form, was tabulated from H. A. Campbell's Tariff #10, and includes modifications and revisions through Nov. 15, 1958.

Copies are available through Pennsalt's Isotron Sales Department.

•

British Magnetic Conveyor

A new magnetic conveyor that can discriminate between magnetic and non-magnetic materials has been announced by George Robson & Co., Ltd., Hodgson Street, Sheffield 3, England. The conveyor can carry all kinds of ferrous containers at any angle of inclination up to, at, or past, the verticle.

•

Shell Egg Preservative

The use of white mineral oil in an aerosol spray to preserve the original quality of shell eggs is described in a new technical bulletin available from L. Sonneborn Sons, Inc., a leading refiner of white mineral oils.

According to the bulletin, this new method of white oil application is highly effective as well as simple, fast and inexpensive. The method of applying the spray is covered, and estimated cost data provided.

Copies of this bulletin, called "Current Topics 138," are available to aerosol packagers upon request from L. Sonneborn at 300 Fourth Avenue, New York 10, N. Y.

Spray Painting Booklet

A new booklet entitled "Car Color Touch-Up Spray Tips" has been published by Plasti-Kote, Inc., Cleveland aerosol manufacturers.

Called "Plasti-Kote Pete," it presents details on how to make old surfaces look like new in a professional manner. The booklet features illustrations on (1) how to protect surrounding areas, (2) how to prepare the surface of the automobile to be sprayed, and (3) how to use paint shields for small areas and how to improve the final appearance of the touch-up job on the car.

The booklet also shows the reader how to use car colors for home decorating and how to care for and store aerosol paints properly.

•

Paint Spray Reodorants

New reodorants for use in the abatement of paint spray fumes have been announced by Rhodia, Inc., 60 East 56th Street, New York. These products, which are designed to overcome the strong odors of most solvent fumes, are "Alamask V-X," a violet type reodorant, and "Alamask CNG-C," a neutral type odor.

•

Kiefer Stem Caser

A new stem casing that pressure fills to an exact level in any type

container without the use of a seal has been announced by the Karl Kiefer Machine Co., Cincinnati. Split-second cut-off of flow is accomplished through the rapid action of a vacuum liquid level control, which is actuated when the product reaches a predetermined height.

Container Forming Press

A transfer press for the construction of aluminum aerosol cans has been developed by L. Schuler AG, Goppingen/Wurtt., Germany. According to *Overseas Post*, West German technical publication, the 40-ton press automatically processes the cans through various single stages:

"Coil material is fed to the blanking station where blanks may be cut in a staggered arrangement. After blanking follow the required drawing, sizing, trimming, and flanging operations. A series of tools for these operations are mounted side by side. The various settings required—such as sheet-holder pressure, adjustment of tool-holders and movement of ejector can be adjusted individually for each tool station and recorded by means of scales provided. The number of strokes per minute can be adjusted according to requirements through an infinitely variable speed gear box. After every stroke, the work piece is fed to the next tool station by means of grippers. Since there will be a work piece in every station, at every stroke one component will be completed. Depending on the operations required, transfer presses with eight to 14 tool stations are employed."

•

New Type Vacuum Filler

A filler, tradenamed "the Gravac," employing an entirely new principle of vacuum filling has been developed by the Horix Manufacturing Co., Pittsburgh. A major advantage of the new filler is said to be the fact that it not only insures positive and accurate filling, but it also eliminates the overflow or return system which normally is an inherent feature on conventional vacuum fillers.

Standard gravity filling valves are used on "the Gravac," which is claimed to be significant because it means that it may be used for either gravity or vacuum filling, depending upon the nature of the product. Another feature of the Horix filler is a specially designed manifold system in which the vacuum system is interlocked with the starting controls, to permit the vacuum to be pulled on the product only when the machine is rotating. Also incorporated into the design is equipment which assures immediate recovery of the vacuum should the machine be stopped for any reason and then restarted.

All inquiries regarding this new principle should be addressed to the company at, Corliss Station, 2609 Chartiers Avenue, Pittsburgh 4, Pa.

•

New D&O Perfume Base

Dodge & Olcott, Inc., New York, has developed a new methyl ionone which it reports maintains a constant note throughout its dry out period and can be used to advantage in any perfume. Called "Methallea," the material is a straight chemical body with fine fragrance and it can be substituted for methyl ionone standard and/or alpha beta mixture to improve almost any odor.

•

New Du Pont Booklet

Industrial technology is advancing so rapidly it could well "reshape the world in a single generation," it is stated in a new booklet published by the Du Pont Co., Wilmington, Del.

Titled "The Story of Technology," the 36-page, pictures-and-text booklet describes the large corporation as a principal element in technology. To coordinate the many specialists and to raise the large sums of money required for major scientific and engineering accomplishments, "there must be organizations of substantial size and experience. This is the function of corporations like Du Pont and, in essence, this is their reason for being," the booklet says. Large industrial firms can "sponsor research in many fields, correlating discoveries across the broad spectrum of scientific disciplines and translating new knowledge into a wide variety of useful products."

•

New Risdon Price List

A new price schedule covering the company's complete line of aerosol valves, caps, and purse-size dispensers has been announced by the Valve Division of The Risdon Manufacturing Co., Naugatuck, Conn.

AEROFLEX® "P" DIP TUBES

QUALITY CONTROLLED—Every shipment laboratory tested for crack resistance

- Ideal for aerosols, atomizers, squeeze bottles and lotion pumps
- Odorless, non-toxic, resistant to most filler and propellant chemicals, crack resistant through exclusive formulation of materials
- No annealing necessary
- Close tolerances maintained
- Nylon dip tubes extruded for special applications

As one of the leading suppliers, ANCHOR offers a most reliable service and on-time deliveries. New illustrated brochure "Extruded Plastics" now available. WRITE TODAY on company letterhead.

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Long Island City 6, N. Y.
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Aerosol bouquets

that have proved their effectiveness in the production of industrial and consumer products

MINT BOUQUET.....No. 3121
APPLE BLOSSOM...No. 3122
OIL SWEET PEA.... No. 3123
OIL WISTARIA.....No. 3124
OIL GARDENIA..... No. 3125
OIL BOUQUET E.T. No. 3126
OIL BOUQUET P.C. No. 3127
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OIL BOUQUET H.C.S. No. 3130

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We're Real Pleased

AEROSOL AGE is so well read wherever it goes. Many readers have told us the copy goes to half a dozen others in their shops before it arrives at their desks — weeks later — dog-eared, marked and cut up.

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New Polyethylene Bottles

New linear polyethylene bottles possessing such desirable characteristics as light weight, strength, durability, and resistance to a wide range of temperatures, are now available from the Plastic Container Division of Continental Can Co., Chicago.

The new low-cost linear Conolene bottles are expected to widen the use of plastic bottles for packaging detergents, foods, chemicals, pharmaceuticals and cosmetics. Linear Conolene bottles are available in many sizes and shapes, including a new modified cylinder design in 12- and 16-ounce sizes. This new design incorporates the features necessary for easy filling and capping as well as providing large label areas and good pouring features.

According to John Jennings, division general sales manager, "the new bottles are lighter than regular polyethylene bottles by as much as 40%. This freight-saving feature is achieved because linear polyethylene is more rigid and less permeable to gases and liquids, therefore requiring less material in construction."

In general, gas permeability in polyethylene is 1/3 or 1/4 that of conventional polyethylene, and liquid permeability ranges between 1/3 and 1/6 of the rate in conventional polyethylene.

•

Dry Chemical Extinguishers

A new family of dry chemical fire extinguishers has been announced by the Ansul Chemical Co., Appleton, Wisc. The extinguishers feature maximum fluidization, absolute gas tightness and simpler operation.

In order to achieve maximum fluidization without inverting, the gas tube has been redesigned and the gas ports were relocated and rearranged. When a carbon dioxide cartridge is punctured, the new tube blasts gas into the extinguisher shell at crucial points, forcing the dry chemical out through the nozzle in an even uniform stream. Neoprene sleeves on the gas tube prevent the dry chemical from escaping the wrong way into the CO_2 cartridge. The tube is said to be so gas tight that the cartridge can be punctured to pressurize the extinguisher and then uncrewed from the cartridge receiver.

•

Ungerer Product Reference

Ungerer & Co., New York, has issued a new reference list covering the full range of essential oils and aromatic produced by the company. The catalogue features a new cover design, showing the Ungerer seal that will appear on all container closures to insure against tampering with products. The list also features the perfume specialties of Ungerer-Vidal Charvet, France, and a wide range of flavors.

Three-Way Solenoid Valve

A new three-way solenoid valve and three-way pilot valve, both using the same type base and consisting of the same operating parts, were recently introduced by A. Schrader's Son, Division of Scovill Manufacturing Co., 470 Vanderbilt Ave., Brooklyn, N. Y.

Fast interchangeability and a minimum requirement for spare parts are said to result from these features. The pilot valve can be converted to a solenoid type by simply replacing the pilot chamber with the solenoid head and vice versa. This type of changeover takes only the few minutes needed to remove and replace the four cap screws connecting the head to the base. Also the conversion of either the pilot or solenoid valve from a normally open type valve to a normally closed type valve and vice versa, can be effected by merely shifting the pilot or solenoid chamber head 90 degrees. This conversion is also accomplished by removal of the four cap screws.

APPLY MORE THAN 100 AEROSOL VALVES PER MINUTE WITH THE CAPEM H-O-FV

If applying aerosol valves is a bottleneck in your packaging operation, here is your solution—the CAPEM H-O-FV.

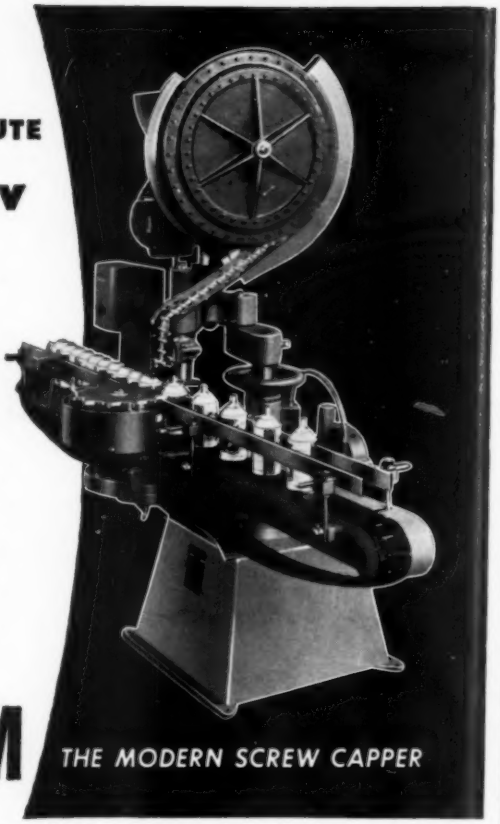
Rich Products Corp., Buffalo, N. Y., manufacturers and distributors of Rich's "Whip Topping", recently installed one of these machines. Production has increased and results have been most satisfactory since installing the H-O-FV on their aerosol container line.

The Model H-O-FV sorts and applies aerosol valves to whipped cream containers at speeds in excess of 100 per minute. Stainless steel and chrome-plated parts are used whenever necessary to comply with dairy industry regulations. Electric switch gear is mounted conveniently above conveyor to facilitate washing the line at shut-down time.

Changeover from one container size to another is simple and easy.

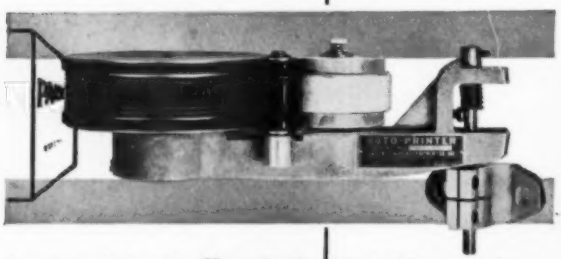
For complete information on the CAPEM H-O-FV and other Consolidated packaging machinery, write Sales Manager, Consolidated Packaging Machinery Corp., 1400 West Avenue, Buffalo 13, N. Y.

CAPEM



THE MODERN SCREW CAPPER

HERE'S HOW YOU CAN SIMPLIFY marking dating coding



industrial's **"whippet"** marker

Easily installed on your conveyor line, the "Whippet" eliminates expensive hand stencilling — automatically imprints cartons, bags, rolls, cans, containers and packages as you need them — during production line runs. Saves inventory, pre-printing, storage costs. Non-oscillating friction operated head uses interchangeable self inking rubber type — works non-stop at production line speeds.

Proved practical and economical on almost any production line marking problem, "Whippets" are so simple and well designed that they serve faithfully and profitably with little or no attention. See how they can improve your operation. *Write for details and catalog today! Dept. AA*

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S. S. WHITE® NITROUS OXIDE • CARBON DIOXIDE MIXTURES for...

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Mayonnaise
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THE S. S. WHITE DENTAL MFG. CO.

FTC Issues Guide to Prevent Fictitious Pricing

THE Federal Trade Commission has issued a nine-point guide aimed at preventing fictitious pricing, a practice the commission says is growing at the retail level throughout the country. By issuance of the guide, the commission served notice on all advertisers and sellers that intensified enforcement has been ordered.

FTC Chairman John W. Gwynne described the guide as a long-needed spotlight on an advertising evil that has misled the public in its purchases and worked a competitive hardship on merchants who advertise honestly.

The guide is directed against the following nine major types of fictitious pricing:

1. *Savings Claims*. Sellers must not represent or imply that they are offering a reduced price unless that price applies to a specific article—not just similar or comparable merchandise. Furthermore, any savings claims must be based on a reduction from the "usual and customary" retail price of the article in the trade area where the statement is made or from the advertiser's regular price.

2. Merchandise must not be advertised as reduced in price if the former higher price is based on an artificial mark-up or on previous infrequent and isolated sales. The former price quoted also must be the one that immediately preceded the new bargain price; if it is not, this fact must be clearly disclosed.

3. Comparative prices for comparable merchandise may be used only if the claim makes clear that the advertiser is talking only about comparable merchandise and not the former or regular price of the article he is selling. Also, the comparable merchandise must be obtainable at the comparative price in the same trade area (or, if not, the ad must clearly say so).

4. Special sale prices must not be advertised unless they represent a bona fide price reduction from the seller's customary retail price or at a saving from the regular price in that trade area.

5. "Two-for-One Sales" claims may not be made unless the sales price for the two articles is the seller's usual retail price for the single article in the recent regular course of his business or is the usual price in the trade area.

6. So-called "½ price" or "50% off" or "1¢" sales must be factually true, and, if conditioned upon the purchase of additional merchandise, this fact must be conspicuously disclosed. Moreover, the proffered price reduction must be from the advertiser's customary and recent price.

7. Products must not be advertised as being sold to the consuming public at "factory" or "wholesale" prices unless they are actually being offered at the same price that retailers regularly pay and are less than customary retail prices for the articles in the trade area where the bargain price is claimed.

8. No article should be "preticketed" with any price figure that exceeds the price at which the article is usually sold in the trade area where the product is offered for sale. Those who furnish the fictitiously high price tags are equally culpable with the merchants who use them. The same prohibition applies to material such as display placards on which is printed a fictitiously high price for the product offered for sale.

9. Comparative prices must not be used in the sale of articles described as "imperfect," "irregular," or "seconds" unless the higher comparative price is conspicuously disclosed to be for the same article in new and perfect condition. Also, the comparative price should not be used unless it is the same at which the advertiser usually sells the product without defects or is the regular price in the trade area for the merchandise when perfect.

Anchor Expands Product Line

Anchor Chemical Co., Brooklyn, has announced the development of a new line of "giant" size aerosol products for the printing and lithography industry. Two entirely new products are "Sans Aqua", a waterless hand cleaner with anti-bacterial action; and "Ex-Static", a static eliminator. Anchor's other pressurized packages, "Inkote", to prevent ink skinning; "Velvee", a rubber rejuventator; "Film-Kleen", a film and glass cleaner; and "Robinol", a cold degreaser for metal parts, have been reissued in larger containers.

•

New Container Material

A new engineering plastic that shows promise of being particularly suitable for use as an aerosol container material has been developed by the Polychemicals Department of E. I. du Pont de Nemours & Co., Wilmington. Called "Delrin," the acetal resin is scheduled to go into production in mid-1959.

"Delrin" is expected to find use for

SUN-LAC INC.
"Successful through Service"
274 LAFAYETTE ST., NEWARK 5, N. J.
GRIL-LITE
SPRAY TYPE
CHARCOAL LIGHTER
LEAVES NO ODOR
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Cosmetics, Creams, Foams, Perfumes, Powders, Household Items, Insecticides, Industrial Products and Plastic Sprays.
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Supplying internationally for aerosols

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Valve Clincher
Metal Cans and
Bottles
DP-104 and DP-104a

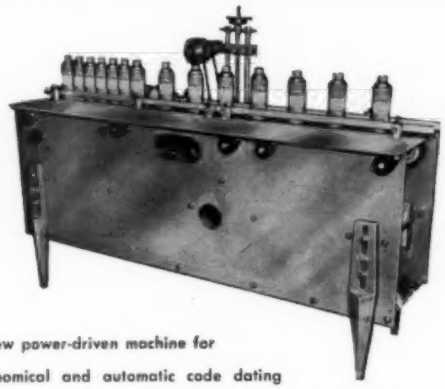
All Products manufactured to our own Designs, Formulations and Patents. Valves available from Germany and Italy—Filling Machines from Germany—Laboratory Equipment and Concentrates from Switzerland.

Publishers of "European Aerosol Survey," a quarterly periodical

Catalogues and Prices on Request.

Aerosol Container

CODE DATING MACHINE



a new power-driven machine for economical and automatic code dating the concave bottoms of pressurized cans or flat bottoms of other round containers with work table area. Will mark top, bottom, or both at the same time.

Send details on your specific marking problems. Literature available on all types of applications.

Kiwi® Coders Corporation

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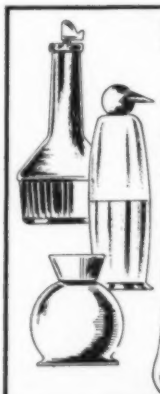

Now you can improve your packaging with Aerosols

IN BOTTLES MADE OF NYLON

Consider also the advantages in styling—combinations of built-in colors, lightness of weight and translucency that lets the customer see how much is there.

PHONE CLifton 4-6000

APCON COMPANY

25th AND KINGS HIGHWAY, INDEP., MO

HAVE YOUR PRODUCT PACKED IN AEROSOL DISPENSERS BY: *Scranton Aerosol Packaging*

NEWEST FACILITIES:
The most modern in the industry, with consistent quality control. Production: 45,000 units per shift.

NEWEST PROPELLANTS:
Freon, isotron, genetron, ucon, and butane are some of many available. Highest quality guaranteed.

PERFECT DISTRIBUTION POINT:
40,000,000 consumers within 250 mile radius. Focal pt. of Fed. Hghwy. Program. 100,000 sq ft of storage facilities.

WRITE TODAY FOR FULL PARTICULARS:

Scranton Aerosol Packaging

a div. of: THE SCRANTON CORP. • SCRANTON 5, PA.

colognes, hair sprays, and similar products. It possesses relatively high strength, excellent resistance to all organic liquids (including ethyl alcohol), and possesses good temperature resistance (which enables the baking on of inks, lacquers, and paints at more than 300°F.). DuPont admits that the material's one weakness is a loss of water by permeation through the wall. The use of foil labels could cut this loss, DuPont suggests.

•

New Low Stacker Cap

A new low stacker aerosol overcap has been announced by Ludwig Closures, 185 Oakland Street, Brooklyn 22. The new metal cap is an addition to Ludwig's established line of high stacker caps.

It is available in all colors and private designs can also be had. The cap is being manufactured on the company's new high volume production machinery.

•

Canco Absorbs Sun Tube

The American Can Co., New York, has announced that the operations of its two former subsidiaries, Sun Tube Corp. and Bradley Container Corp., have been consolidated with the parent company. Sun Tube ceased the manufacture of aerosol valves in the middle of last year.

William C. Stolk, president, said the facilities of the former subsidiaries henceforth will be operated by a newly-formed Bradley-Sun Division of American Can. He added that the new division will continue to manufacture and sell the plastic and metal tubes and other product lines formerly produced by the Sun and Bradley subsidiaries.

Kenneth M. Leghorn, formerly president of Bradley Container Corp., has been named vice president and general manager in charge of the Bradley-Sun Division, and Joseph D. Martin, president of Sun Tube, has been a vice president.

Manufacturing operations will be continued at the former Bradley plant in Maynard, Mass., and the Sun Tube plants in New Jersey.

Silicone Aerosols

(*From Page 29*)

Supply Co. made the first commercial shipments of the first successful dry powder aerosol, culminating several years of testing. This package contains zinc stearate in a special formulation designed to float some of the powder and to disperse the remainder in the propellant. The result is that the can will spray any time without prior shaking to intermix or sink the dust in the gas so it will enter the discharge tube that feeds from the bottom of the can.

The advantage of packing the stearate in this fairly expensive format is that it permits the molder to direct the dust at the exact area of sticking. By thus pinpointing the discharge, the operator eliminates the large cloud of dust normally associated with use of stearate. This dust cloud is highly objectionable because zinc stearate or other metallic soaps are slightly toxic. They also are actually abrasive, and cause excessive wear of molds and molding machine parts, such as guide pins and tie bar bushings.

Polyethylene Crazing

Another factor affecting the silicone aerosol market was the sudden growth of polyethylene molding. When silicones were first used as mold releases, polyethylene was almost unknown to the molder. Then in 1956, when use of this material had grown to fantastic proportions, it was discovered belatedly that silicone might be the cause of crazing or stress-cracking of polyethylene film or molded articles.

After nearly a year's testing. Injection Molders Supply Co. made the first shipment on Feb. 2, 1957 of a Neutral Oil Spray to overcome the crazing found with the silicones. This neutral oil formulation was based on a product already widely used by the manufacturers of sheet and film materials. In aerosol form, it is far less of an offender than silicone, but stress-cracking and crazing still appear in extreme cases.

FOR CREATIVE STYLING

BOTTLE CLOSURES
EVERY STYLE FOR ANY AND ALL SIZE BOTTLES

AEROSOL CAPS - CANS
NEW CONCAVE VALVE DOMES
FLAIR VALVE DOMES
STRAIGHT WALL VALVE DOMES
In BRASS-polished or clear . . . STEEL in all finishes . . . ALUMINUM-polished and gold finished . . . or your own specifications.

CONTAINERS
FLACONETTES
GOLD PLATED PERFUME FUNNELS
LIPSTICK CASES
In handsome gold finished metal.

National Sales Agents • MONROE-DANFORD & CO. • 50 48th St., P.O. Box 807, Weehawken, N. J.

Special Coatings and finishes on Containers and other Aerosol Components

Silk Screening • Printing on Containers

Metal Fabrications INC.
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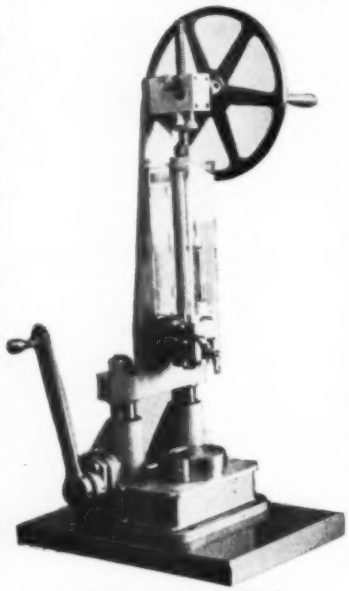
DEVELOPED FOR THE CONSULTING LABORATORY, THIS APPARATUS IS THE ULTIMATE IN FUNCTIONAL DESIGN AND PERFORMANCE

Our apparatus division has been set up to make all items available to the industry. Prices and descriptive literature on request.



Foresman Liquefied Gas Manipulator

APPARATUS AVAILABLE

Cont. Filling Corp. Clinch Torque Meter

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Hand Operated Vial Capper
Change Parts for Vial Capper
One inch opening Can Closing Press
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Karl Fischer Pressure Titration Cells
Dead Stop Indicator for Karl Fischer Titrameter
Density Units
High Pressure Test Bombs
Can Sampling Units — Piercing or Valve Actuating
Pressure Gauging Unit — Pressure Balance or Water Filled
Test Ovens — Standard or Custom Built
Instantaneous Chiller Units—Mechanically Refrigerated
Electric Hot Water Test Bath
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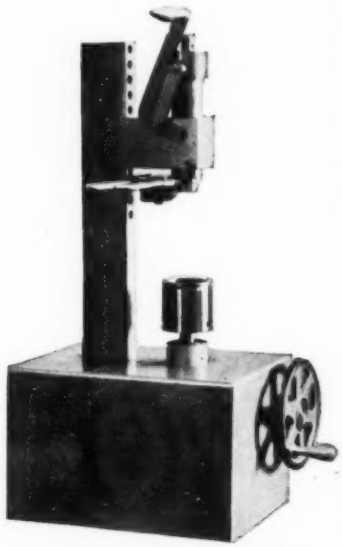

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Since aging and use also will bring out defects, there is considerable evidence that other factors besides mold releases also may occasion crazing. While the silicones are chemically inert, they do have the ability to find any check or flaw, and may disclose or exaggerate stresses not immediately visible. Possibly the propellants used in the aerosol might be blamed, but since crazing can occur where no release agent is used, it is well to recognize such other sources as strains, overheating, batch or formula variations, or variable process factors, such as mold or die temperatures. Modifications made in the polyethylenes and improved heating cylinders and extruders also have tended to reduce stress-cracking and crazing. Today, silicone cannot be considered the only offender as it was suspected, at first.

Shelf Life and Prices

Other problems of distribution and service also are going to be affected by the fourth or saturation phase of the silicone aerosol market. Warehousing is costly, particularly of aerosols having such an active or penetrating ingredient. By maintaining only one large stock and equalizing delivery costs, we are able to catch any difficulty far more quickly than if several stocks were maintained around the country. Use of coded cans that tell us when they were filled gives a constant check on product quality and any possible cause of rejection.

Because of the active nature of silicone, it must be treated differently than insecticides, perfumes, or paints, whose action on can seals and crimps, and valve components is far less tricky. Short shelf-life and storage costs, therefore, pose a double problem by making long runs almost impossible, and by increasing the clean-up costs of the filler. These costs sooner or later must be passed on.

The small total volume of the entire silicone aerosol market (an estimated 200,000-300,000 cans per year) prevents nearly every concern not already in the filling business from setting up its own line. A few large molders have had their own packages made to order. By using unlabelled, odd-lot, or remainder cans, and accepting low standards that could not be presented commercially, they have been able to cut the cost to about what the average distributor must pay for his package.

Incidentally, of course, they have further reduced the silicone aerosol market. Silicone prices, however, are all scaled to the size of the order, and experience proves that large users are almost always better off to place sizeable blanket orders with established suppliers than to invest so heavily in the minimum order a filler requires to set up and process a batch of specials. Indeed, we now stock a "no-label" package for certain special accounts, and for concerns who insist on the lowest price, other factors aside.

Export Problems

One of the interesting facets of the aerosol story is in the typical pattern of the export and Canadian markets. In the case of the European sales, the exporting of silicone aerosols is impractical for many reasons. Shelf-life, rough handling, adverse storage conditions, and high rejects because of weight losses, plus export packing and commission costs, make it impossible to satisfy European customers. Of course, there is the familiar pattern of the search for new products by European aerosol fillers at the end of many an inquiry. Obviously, the only possibly foreign market is a bulk one best serviced by the three or four major suppliers of the silicone fluids themselves.

In the Canadian market, at least two concerns who engaged local outfits to represent them on silicone aerosols soon found that their own Canadian representatives were putting out an identical product under their own label. The extremely limited nature of the Canadian market, however, made these projects more speculative than rewarding. We suspect that some Canadian fillers learned what others have known—that the costs of having silicone in their plants resulted in difficult clean-ups and contamination of their other products that more than off-set what they profit from the occasional filling job.

This survey of the silicone aerosol field must include mention of the number of requests we receive for bulk silicone fluid, motivated by the apparently high cost of the aerosol package. Silicones sold by the pound or gallon are so prohibitive in price that relatively few release applications can be found for them in the pure form. As previously mentioned, suitable solvents for silicones are almost all toxic or hazardous, with the exception of the fluorinated hydrocarbon aerosol propellants and one or two other related, highly-volatile products that sometimes also are used as extenders in the manufacture of silicone aerosols.

Simple economics and safety, therefore, dictate the use of these low boiling-point carriers that must be packed in pressurized containers as the safest and best method of applying silicone fluids and greases. This is true in spite of the cost (from 10-28¢) lost in the disposable package, since ICC Regulations forbid reuse of aerosol containers.

It also should be mentioned that only the aerosol method of dispensing silicone produces the droplet-free atomization necessary to achieve a good coating on highly polished surfaces. The use of air or refillable containers, and other attempts to circumvent the disposable one-trip aerosol, all have resulted in costly failures, so far.

Selecting An Industrial Aerosol

There are several factors that the user of a silicone aerosol should consider apart from a bargain price. The ability of silicone to penetrate the crimps, seals, and soldered joints of some commercial containers demands the most rigorous selection of the proper can and release-valve components. Many low-cost valves, completely satisfactory for other products, give a good deal of difficulty with silicone. Indeed, many aerosol valves perfectly suitable for intermittent or household use, where neither speed nor spray pattern are important, fail completely to satisfy the more critical needs of the industrial user.

In no other area of operating expense, except possibly in the heating

cylinder itself, has an immediate economy like low price, or the selection of an aerosol mold release having an unsuitable valve or other disadvantage brought the molder more long-range costs. Tests of so-called bargain releases often reveal that they dribble or seep away both in and after spraying, and in the inconvenience of outright rejects that fail to spray properly, waste far more material than is represented by the money saved in the first cost.

Since mold releases must be applied during an interruption in the molding cycle, any waste motions they occasion become very costly when accumulated over months of operation. Specifically, unstable or tippy cans that cause fumbling or require the operator to check to see which way they will spray cost the molder more every hour than he saves in mold release costs. Since the space between molds often is limited, and many machine operators are women, both the size and weight of the package also are considerations.

Another factor that is costly for the molder to determine is whether or not the package he selects has the right silicone content. Many releases today contain far too much silicone, or are made of formulations having the wrong viscosity for proper dispersion. Other brands have so little silicone that the molder is literally buying nothing but the propellants, methylene chloride, or even toxic, but cheap, carbon tetrachloride in various proportions. Spot checks we conduct from time to time to evaluate other products indicate wide variations in weight and composition, even within the limitations of single brand label. This may indicate either complete indifference on the part of the filler or even the lack of a proven formula in extreme cases.*

Exacting quality control and the selection of a properly-balanced formula, therefore, are vital factors in the choice of a mold release. Unfortunately, they are almost impossible for the molder to evaluate without costly and continuing laboratory tests. The complete integrity, experience, and long-range intentions of the supplier, therefore, should be of the utmost concern to any user of a silicone aerosol.

*Apparent formula variations can also be the result of leakage, improper storage, and other factors such as difficulty of opening cans for evaluation of contents. We rely on continuing tests and average results in testing procedures.

The Future

The future of the silicone aerosol industry is difficult to predict. The mortality rate certainly is bound to be high. The efforts of the enterprising field sales engineer for silicone fluid to expand his local market with a new label may actually be inviting some unwary entrepreneur to invest in a disaster because the field was already approaching saturation.

In our own case, we believe that quality and performance outweigh all other considerations. By cheapening our package, we would invite our customers to expend thousands of dollars worth of molding cycles to save a relatively few dollars in mold-release costs.

Whether or not our continuing study of the mold-release problems will disclose a better product than silicone, still is too early to say. However, several products and packages are being studied with this purpose in mind.★

•

Reefer-Galler Moves

Reefer-Galler, Inc., pioneer in the development of aerosol moth control products and insecticides has moved its offices from 225 Fifth Avenue, New York to 521 Fifth Avenue, New York 17, N. Y.

Aerosols in Review

(*From Page* 34)

trade observers, has been published by Aerosol Techniques, Inc., Bridgeport custom filler, in the latest issue of its newsletter *Pressure Gauges*.

Here are some of the ATI predictions:

Production: 600-million unit volume by 1960. A world volume of a billion units is not thought unrealistic.

Sales: $1,500,000,000 annually in five years.

Types of products: Pharmaceuticals and foods should make the greatest gains within the next three years. A $200 million pharmaceutical aerosol market is foreseen by 1961.

Container materials: More glass, aluminum, plastic and perhaps paper.

Line speeds: From present speed of up to 150 units per minute, automation developments should achieve speeds in excess of 300 per minute.

Marketing: Lower retail price trends, to compete with other packaging. More and more supermarket distribution.

Competition: The trend to more small filling companies will be reversed.

Design: More and more emphasis on visual salesmanship of the container. Stress on brand identity. More emphasis on color.

Multi-units: Kits of more than one aerosol container are a certain merchandising development.

Male market: Aerosol fragrances, deodorants and hair sprays for men will become popular within a short time.

Propellants: Development of new and improved containers and valves will be conducive to a wider variety of propellants and, in all likelihood, decreased cost.

Valves: New design features to dispense new products will continue to be developed by the manufacturers, who have been as responsible as any single factor in the technical progress of the industry. Among early anticipations is a dispenser that will spray up or down.

Regulation: The expected popularization of food and pharmaceutical aerosols will bring more regulation on federal and state levels, with corresponding need for standardization.

Research: More and more allocation to developmental work on new products and processes.★

•

Bourjois Names O'Reilly

Bourjois, Inc., New York marketer of aerosol perfumes and colognes, has appointed Gerald O'Reilly to the post of sales manager. Prior to joining Bourjois, he was associated with the sales force of Prince Matchabelli and Seaforth for the last nine years.

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Fragrances For Aerosols

(*From Page* 19)

when it comes to fragrance."

The Givaudan researcher was optimistic about the future of the pressurized package: "Obviously there is more to come, and it is quite likely that the lady of tomorrow will tint her finger nails by means of an aerosol whose flow will be controlled so that just the right amount of polish will be allowed to cover the nail. Special skin creams to cover freckles and blemishes will also be aerosol-packaged and it is likely make-up products will be pressurized. An aerosol leg make-up and an aerosol depilatory will be instrumental in reestablishing the popularity these two really deserve. The pet owner and the pet will benefit when we have available a full line of sprays, germicides, and wet and dry shampoos for dog or cat. We must not forget that the aerosol is perfectly suited for the pharmaceutical field and for edible products. In these areas the aerosol will find a very great potential for expansion.

"Aerosols for inhalation purposes will require fragrant 'medication,' while in the food field the creations of some of the renowned French chefs may be packaged in aerosol form to embellish a relatively uninspired meal through the addition of the rich and fragrant odors of the sauces. To turn to matters medical, it seems to us that the storage of blood plasma in an aerosol package—to be dispensed at a predetermined rate—will help the patient as well as save the time of the trained nurses who have to administer transfusions in a conventional manner."

Mr. van Liew next ventured into a field that should provide good ammunition for some future editorial page of the *New York Times*: "The American public has been most receptive to so-called 'mood music.' Why not therefore think in terms of offering 'mood' fragrances to delicately and unobtrusively create an atmospheric background that will enhance the decor and the theme of a room, a festive occasion, or simply create the proper mood for the benefit of one's guests or the family itself. The aerosol (perhaps combined with air conditioning) might very well be the answer to this one."

For the future, Mr. van Liew sees the possibility of aerosols some day contributing to public health and welfare on a truly grand scale: "Sprays capable of sanitizing large areas including hospitals, subway cars, public buildings, and so forth, may conceivably so minimize the ravages of air-borne bacteria as to all but obliterate the so-called virus infections, as well as the common cold."

Advertising and Safety

(*From Page* 19)

to cut down such losses, Mr. Barnes explained DuPont's plant safety program, which, based on education and mass motivation of all employees to make safety a way of life, has resulted in a decrease in accident frequency rates from 31.2 in 1916 to .35 in 1957. This reduction, in terms of more understandable facts, has meant a reduction from 3,238 injuries and

T. J. Casey (Mojonnier Associates) and A. Herzka (The Metal Box Co.). At right (clockwise from front): J. J. Buchanan (Continental Can), Don Tuttle, Jack Quinn, and Walter Beard (Risdon), and Bill Baulieu (Bridgeport Brass).

Among the displays in front of the hospitality rooms of the CSMA convention was this roll of dip tubing—in front of Anchor Plastics' suite.

115 fatalities in 104 million hours exposure in 1916, to 67 injuries and 8 fatalities in 192 million hours exposure in 1957.

Mr. Barnes explained the details of the company's safety organization in some detail. The most important single factor, he suggested, is the attitude of top management, which can be used to influence the entire personnel. A good, efficient safety program throughout the company's plants, he said, can lower insurance costs, enhance prestige, and lower over-all costs.★

Product Testing

(*From Page* 18)

little lustre, provides some stiffening action, imparts some added neatness. Curling action is not deemed particularly significant because we have found no evidence that hair sprays actually furnish curling action. In fact, this seems to be an item of hope when women buy a particular brand."

Mr. Powers declared that much needs to be discovered about another leading aerosol cosmetic type, colognes and toilet waters. He suggested: how important is alcohol, and is it desirable or what a woman expects when she buys the product?

"Until we know more about these products and what makes them perform and sell," he concluded, "we will have to continue to be lucky or unlucky in foretelling the future of any particular aerosol product type."★

•

Krylon Elects Frazier

Walter A. Frazier, president of Hirsig-Frazier Co., Dallas, has been elected to the board of directors of Krylon, Inc., Norristown, Pa. Mr. Frazier's company has represented Krylon in the hardware and automotive trades in Texas, Oklahoma, and Louisiana for the past six years.

Skin Chilling Effects

(*From Page* 18)

results in less chilling because of the wider dispersion of the spray pattern.

4. The chilling effect relationship between propellants remains substantially unchanged even when they are put into solvents or emulsified.
5. The chilling effect of solutions increases as the percentage amount of propellant increases.

Mr. Dunne acknowledged that the General Chemical device still contains a number of technical shortcomings, and suggested that the following be done to improve the technique:

1. That the same valves be used in all tests to eliminate differences in spray patterns.
2. That an automatically timed means of actuating the valves be designed to eliminate the possibility of human error.
3. That the tests be conducted in a thermostatic and draft-proof chamber.★

New DuPont Survey

(*From Page* 17)

The memory of the respondents was a particular problem in this brand breakdown. "A startling high percentage of the respondents couldn't remember what brand of household products they had bought. To illus-

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trate, while more than 20 brands of insecticides were mentioned, 20% of the purchasers couldn't remember what brand they had bought! Also on colognes while over 30 brands were mentioned, no one brand accounted for more than 3% of the purchase mentions."

From this Mr. Lawrence concluded: "I think that this points out the vast difference in household products and personal products as to the job that has been done to create brand preference. Perhaps some of the marketers of household products could take a clue from the personal product marketers and strive to create more consumer preference."★

•

Chemway Names Tiefenwerth

Chemway Corp., Mountain View, N. J., has appointed William F. Tiefenwerth director of advertising and merchandising for its Lady Esther Division. He was formerly a product director for Johnson & Johnson.

Custom Food Filler

(*From Page* 17)

must be evaluated to determine safe packaging procedures that will positively eliminate bacterial spoilage.

"The formulation was prepared in the filler's laboratory and methods of reducing the particle size to a consistent and uniform value were painstakingly arrived at by trial and error. All types of conventional food finishing equipment were procured, tested and eliminated one by one as unsatisfactory because of inconsistencies, excessive waste, or general inability to yield the proper product. It was eventually determined that a special machine had to be designed and built for this job.

"In arriving at selection of a suitable valve, it was found (again by trial and error) that available valves would *not* dispense the product at the necessary viscosity. A valve was modified and a spray head designed, by trial and error, that gave the desired delivery. Many tests were made to insure freedom from clogging, minimization of product retention, and adequate residual pressures. Color, flavor, and application tests were made by gourmets to be sure the finishing and heat treating did not alter the product from that which was desired.

"In the meantime, the can company was manufacturing test containers with all the variables of commercial values for corrosion and shelf-life testing. These were packaged and placed in storage in the laboratories under various conditions. Packages were also made and inoculated with specially prepared mixtures of bacteria at various points along the production line to determine the resistance of the product to spoilage and the adequacy of the packing procedure. Very careful evaluation of the toxic bacterial problem (which must necessarily be a prime consideration), was made. Once the methods of product preparation and filling were established, it was necessary to duplicate the operation on a production basis. A suitable manufacturing area to insure conformance to all requirements was selected after consultation with local health authorities. Complete facilities were then assembled for full-scale production of the product.

"Quality control tests were set up to insure uniformity in the final manufacture. Solids, pH, viscosity, color, and flavor limits were established. Filling times, temperatures and vacuums, gassing times, temperatures and pressures, weight control, and esthetic characteristics were standardized. Inspection of raw materials and parts were necessarily controlled."

To analyze the function of the custom filler in the food field, Mr. Clapp gives the following capsule definition. "The food aerosol custom filler operates as the hub, or coordinator, of the various facets of the product development and production of a pressurized food product."

Of the future, he declared: "The role of the custom food filler will change very little in the next few years. His operation will become more complicated and better to meet increased production demands; and these demands will become really staggering when the food aerosol truly hits its stride."★

CSMA Elects King

(*From Page* 15)

early next year, she said, New York City will conduct its own study of labeling practices, with particular emphasis upon analysis of consumer reaction to precautionary labeling.

One of the important goals of the New York City board, Dr. Baumgartner said will be to try and determine whether consumers really understand and observe signal words, such as "danger" or "caution," required by law to be used on labels of potentially hazardous chemical products. She also suggested that industry join the city group in "fully exploring other possible signal devices, such as shape of the container,

Dr. Leona Baumgartner

special colors, etc.", in order to find the simplest method of identifying "hazardous substances" in household products.

Substitution of less hazardous but equally effective chemicals is obviously the best means of preventing consumer accidents due to misuse of chemicals, Dr. Baumgartner said. "Better education on use of products, better labels, easier recognition of the box or bottle with potential danger, safer containers, more flexible and better laws—all have their place."

In New York City last year, 8,000 cases of death and illness involving drugs and chemicals were reported to the city Health Department Poison Control Center, Dr. Baumgartner told the group. "Of those, some 2,000 involved household products," she said, adding, "fortunately most of this latter group were without serious involvement."

"The regular daily use of chemicals by millions of people without mishap gives assurance that education can solve the problem," she concluded, "but the size, the complexity and the scope of the educational job to be done demands active participation by all (government and industry)."

"No chemical manufacturer can be complacent about a continued, assured market for his products. There is always the threat of alternate material being discovered, or the development of new and improved characteristics in an old material," declared O. V. Tracy, vice-president of Esso Standard Oil Co., New York, at the CSMA luncheon on Dec. 9.

". . . The recent recession taught the chemical and allied products industry some valuable lessons," Mr. Tracy continued. "One was the necessity to trim the costs of doing business. Another was to induce its salesmen to make more effective use of their time and to intensify their efforts. A third was that all kinds of competition are becoming a more potent force in our business—and that it is here to stay. In view of these factors, I think our industry is going to have to adopt hard selling tactics in the future if it is to realize its full potential.

". . . Competition that has been persistent, powerful, and all-pervading, has always been an outstanding characteristic of our industry. But today competition is becoming more intense than ever—it presents a challenge to the initiative, skill, and judgment of every management of every company in the industry."

Mr. Tracy pointed out that there are basically two types of competition in the chemical industry—one between producers of the *same* product or services and the other *between* products. The latter type, he said, occurs when one product tries to usurp another by means of a more favorable price, superior quality, or some other advantage.

"Primarily, the fast pace of chemical research gives a company a competitive advantage on a new process or a new product for only a limited time. It's usually only a short while before the other companies in the field have developed another process to do the same job, and are manufacturing the same or similar products. There are few chemicals regularly produced in the U. S. that can-

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not be made from alternate raw materials or by different processes."

The companies that will have the best chance of succeeding in this intensified competitive situation, Mr. Tracy declared, are those companies that make an extra sales effort. "They will be the ones conducting application research on their products, so that new uses can be suggested to their customers. They will help solve customer problems by giving good, sound, technical advice. Needless to say, they will excel in prompt delivery, good containers, and top product quality. Maximum service will be an important consideration for success.

"In addition, the company which will prosper tomorrow is the one which continually develops new and improved products to supplement or revitalize its product line. No one can relax—even if he makes a top-quality product. For while you stop to pat yourself on the back, someone's sure to come out with a better product —especially if his product research and development facilities are well organized."

COMPETITIVE pricing, as it applies to "Achieving Price Respectability" was the subject of an address by Fred C. Foy, chairman and president of Koppers Co., before the association luncheon on Dec. 10. The importance of pricing in a wellrounded company policy is too often minimized, he declared. "Creative pricing should be guided by purpose, planning, and method. It is not based on hunches, emotions, or misinformation. Every major price decision should stem from a consideration of all the factors involved, not just those that seem the most imminent or the most pressing."

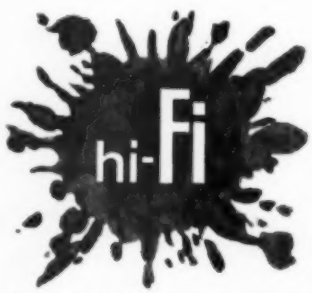
". . . We have so much more than price to sell. We have design and application features; availability; quality refinements; use convenience; modern packaging; and so on. These are real values and competitive factors; most of them are as important or *more* important than price in creating demand.

. . . After we have marketed our product and recovered our costs, we still have to generate a reasonable return on our investment. What constitutes a 'reasonable' return will vary widely, depending on the industry's area of operation, its state of development, growth potential, rate of obsolescense, and many other factors. But whatever the circumstances, the return should be sufficient to keep a company strong and flexibile; enable it to pay its stockholders enough to hold them as well as attract new equity owners; and above all, make it possible financially to plan for growth."

Mr. Foy criticized hasty pricing decisions forced by the hurly-burly of competition, pushes for adjustments, temporary retreats, and other deviations from a stated policy. "The less we lose the long view, the more surely we'll move ahead toward our goals.

". . . If we stick to a consistent price policy, I feel it will give more assurance and stability to our planning for the future. We will have more time and energy to give to the creative part of industry. We can plan for physical expansion, for new product development, for more efficient production, for more useful products, and for better earnings performance.

"If we stick to a consistent price policy, I am sure we are all going to have greater 'price respectability' in the market. We are going to sell both dependable products and dependable prices. We are going to lessen the risk of losing a good customer because he may fear that his competitor is buying cheaper than he is. We are going to achieve the benefits that come with stability, openness, and fair play."★



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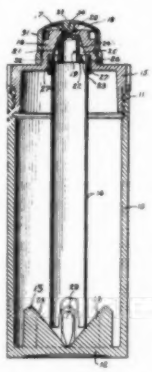
New Aerosol Patents

Listed below is a brief review of recent patents pertinent to the aerosol and related industries.

Complete copies of these patents may be obtained by writing to the publisher of this magazine, Aerosol Publications, Box 31, Caldwell, N. J., and remitting 50c for each copy desired. For orders received outside of the United States the cost will be $1.00 per copy.

2,861,723. Two Way Resilient Valve For Pressurized Containers Issued Nov. 1958 to Ralph D. Cooksley, Elizabeth, N. J., assignor by mesne assignments of one-half to Pressure Packaging Corp., Union, N. J., a Corporation of New Jersey.



A pressurized container and dispenser comprising a container body having a hollow projection with an annular seat and a central loading and dispensing hole, a valve element comprising a cylindrical portion extending into the hollow projection, a top sealing portion having its periphery engaging with the annular seat of the projection, a perforated annular flange portion extending radially outwardly from the bottom of the cylindrical portion, said hollow projection having a second annular seat surrounding the hole and parallel to the first mentioned seat and said annular flange portion of the valve element engaging with the second mentioned seat, means for retaining said valve element within the hollow projection and against downward displacement, said valve element being formed of flexible material and adapted to be flexed from its seat in the hollow projection and normally held there against by the pressure of the contents within the container, and means for depressing the top portion of the valve element to discharge the contents.

2,856,297. Polishing Composition. Issued Oct. 1958 to Henry C. Green, Grand Rapids, Mich., assignor to Simoniz Co., a corporation of Delaware.

An aerosol type wax-free polishing composition adapted to be dispersed onto a surface from a container in which said composition is retained under superatmospheric pressure, consisting essentially of: about 0.5 part of lauric isopropanolamide; about 25 parts of methylene chloride; about 25 parts of trichloromonofluoromethane; about 50 parts of dichlorodifluoromethane; and about 2 parts of dimethylpolysiloxane, all said parts being by weight of said composition.

2,858,054. Dispensing Device. Issued Oct. 1958 to Stuard K. Harkrader, Seven Mile Ford, Va.

A dispensing device for a container, comprising a dome-shaped inner shell having an outer spherical surface and a dome-shaped outer shell having an inner spherical surface, apertures in the inner shell and outer shell extending through said spherical surfaces, said apertures being adapted to be brought into alignment upon rotation of the outer shell with relation to the inner shell, means on said inner shell for attaching the same to a container, said outer shell having an inwardly facing conical surface adjacent the lower end thereof, an annular ring having an outwardly facing conical surface and means attaching said conical surfaces to each other, said ring and said inner shell comprising a pair of members, one of said members having an arc-shaped tongue and the other an arc-shaped groove, said tongue extending into said groove, said tongue and groove extending partially around said shells, said groove having end portions forming stops for said tongue at each end of said groove whereby to limit the rotation of the outer shell on said inner shell, and to permit manual alignment or disalignment of said shell apertures, said conical surfaces being mating surfaces whereby said ring may be adjusted during assembly to cause contacting engagement between said tongue and groove.

2,858,162. Aerosol Generator. Issued Oct. 1958 to Paul A. Frank, Bedford, Ind., assignor to William L. Tenney, Dayton, O.

A fog and spray generator comprising a pulse jet engine including a combustion chamber and a discharge tube and adapted to develop a pulsating discharge pressure within the tube, a positive displacement pump having an intake adapted for connection to an open reservoir for storing a for-

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mulation for introduction into said tube to produce the fog or spray, means connecting the discharge side of said pump to said tube for delivering said formulation into said discharge tube, a fluid motor operatively connected in driving relation with said pump, means forming a pressure connection from said combustion chamber to said fluid motor, and a pressurizing valve in said pressure connection including a check valve member adapted to open for passage of the pressure peaks from said combustion chamber.

•

2,858,659. APPARATUS FOR APPLYING CLOSURES TO CONTAINERS. Issued Nov. 1958 to Donald E. West, Michigan City, Ind., assignor to The Rabin Co., Los Angeles, a corporation of California.

A capping machine of a character to press a plastic spout having a depending skirt portion firmly onto the neck of a container comprising a vertically movable pair of normally spread pressing shoes, a rod carrying said shoes, cam means effective to move the rod and shoes downwardly over the spout, a cam lever carried by the rod, stationary means engageable by one end of the cam lever effective to rock said lever when the rod moves downwardly, and cam surfaces at the other end of said lever, said cam surfaces being engageable one with each shoe to cause said shoes to close around the spout during downward movement of the rod.

•

2,858,903. METHOD FOR THE TREATMENT OF INDUSTRIAL AEROSOLS. Issued Nov. 1958 to Alexander Goetz, Altadena, and Horace Edmund Karig, Pasadena, Calif., assignors to Madeleine Fallon, Los Angeles.

In a method of treating industrial gases to remove particulate matter therefrom, the steps of: preforming an emulsion comprising one part of water-immiscible polar liquid and 50 to 120 parts of water; converting said emulsion to a fog of fine droplets by the application of shearing stresses whereby substantially all of the droplets are dipolar, one pole consisting of a body of water and the other pole consisting of a separate body of polar liquid in contact with said body of water, said poles being electrically and oppositely charged, whereby each droplet has enhanced effectiveness in attracting particulate matter; and mixing said fog of charged dipolar droplets with said industrial gas, whereby particulate matter is attracted to and held by said droplets.

•

2,858,954. LABEL SECURING ATTACHMENT. Issued Nov. 1958 to Howard B. Tuthill, Grand Rapids, Mich., assignor to Oliver Machinery Co., Grand Rapids, Mich., a corporation of Michigan.

In means of completing the attachment of a label to an article having a convex label receiving surface the combination comprising: a base member a pair of flexible flaps each having one edge secured to said base member along opposite sides thereof and projecting away from said base member; a thin, stiff plate characterized by resilience, overlying a major portion of each of said flaps and firmly secured to said base member with said flaps between said base members and said plates; a yieldable block seated between said flaps; the face of said block adjacent the free ends of said flaps having a concave trough therein parallel to said flaps; said flaps projecting beyond said face of said block.

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. In not all cases are there strictly aerosol trademarks, however many of the products listed below come within the category of those for which a possible future use in aerosols is foreseen.

STRIP FLUSH, for all-purpose paint, varnish, and lacquer remover. Filed June 26, 1957 by DeMert & Dougherty, Chicago, claiming first use on or about Feb. 5 of same year.

LEONID DE LESCINSKIS, for toilet water, cologne, perfume, sachet powder, and hair spray. Filed Dec. 14, 1956 by Leonid de Lescinskis, New York, N. Y. claiming first use in 1940.

SCULPTURE WAVE, for hair wave setting cream. Filed March 18 by Harold C. Parks, d.b.a. Parks Laboratories, Eugene, Ore., with first use claimed for July 22, 1955.

CAMETTE, in script, for refreshing fragrance to be sprayed in enclosures and apparel, linens, and furnishings. Filed Feb. 25, 1958 by Strouse, Inc., Morristown, Pa., claiming first use Dec. 11, 1957.

PENTIOL, for aromatic scent chemical substance. Filed March 5 by Hoffman-La Roche, Inc., Nutley, N. J., with first use reported Feb. 11, 1958.

AIRMIST, for room deodorants. Filed Jan. 21, 1958 by Consolidated Royal Chemical Corp., Chicago, Ill., with first use reported to be Nov. 9, 1957.

"SIR", for cream boot and shoe conditioner and polish. Filed Jan. 14, 1958 by Omega Shoe Polish Co., Los Angeles, Calif. claiming first use Nov. 8, 1958.

SPRAYONNAISE, for salad dressing. Filed April 3 by Joseph M. Christensen, Chicago, Ill., claiming first use Feb. 6 of same year.

CHEMPEL, for room deodorants. Filed Aug. 14, 1957 by Chempel, Inc., Camden, N. J., claiming first use Feb. 1 of same year.

DETAMIDE, for insect repellent.. Filed Jan. 6, 1958 by Cowles Chemical Co., Cleveland, with first use reported for Oct. 22, 1957.

DUBL-DETH, for insecticide. Filed June 25, 1956 by Destruxol Corp., Ltd., d. b. a. Destruxol Corp., Pasadena, Calif., with first use reported May 14 of same year.

TARTAN 21, for suntan preparation. Filed March 24, 1958 by McKesson & Robbins, Inc., New York, claiming first use Jan. 20 of same year.

TILFORD, in fancy script, for hair sprays, colognes, and other cosmetics and toilet preparations. Filed Sept 4, 1957 by Park & Tilford, New York, claiming first use May, 20, 1957 (with use going back to 1915 as "Park & Tilford")

FRESH IN DRESS, for chemical preparation used as a clothes deodorant and a garment freshener. Filed Oct. 8, 1957 by La Bora, Inc., Chicago, Ill., with first use claimed for July 31 of same year.

PALCO SPRAY SHINE, for leather finishing, polishing, and protecting spray. Filed April 9, 1957 by Palco Chemical Corp., Charlestown, Mass., claiming first use Nov. 25, 1952.

RODOON, for antiseptic having deodorant and fungicidal properties applicable to feet and shoes. Filed Oct. 21, 1957 by Rodoon, Inc., Joplin, Mo. with first use claimed for June 15, 1957.

AMAZING, for window cleaning compounds. Filed April 28, 1958 by William E. Sievers, Long Beach, Calif. claiming first use April 2, 1958.

FOOT PAL, for foot spray to relieve tired, burning feet, and foot odors. Filed Oct. 8, 1957 by La Bora, Inc., Chicago., claiming first use July 31, 1957.

•

Magnus Honored at Party

Civic, banking, and business leaders of New York honored Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., on the occasion of his 65th birthday. Among those present were James A. Farley, former Postmaster General of the U.S. and board chairman of the Coca-Cola Export Corp.; Edward J. Cavannagh, Fire Commissioner of New York City; and C. W. Korrell, president of the Underwriters Trust Co.

•

S. African Firm Expands Line

General Chemical Corp., Johannesburg, South Africa, has announced an expansion of its aerosol product line for the South African market. New additions to the company's existing line include "Flymos Aerosol Bomb," "Genwem Cockroach Aerosol Bomb," and "Kleen-Aire" room deodorant. The latter is being marketed with three different perfumes—pine, lilac, and lavender.

•

Cox to Head A. H. Wirz

A. H. Wirz, Inc., Philadelphia, has announced the election of Robert F. Cox, vice-president in charge of production since 1954, as president. The company manufactures nylon aerosol containers and special closures.

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Rates for classified advertisements are ten cents per word, $2.00 minimum, except those of individuals seeking employment which *Aerosol Age* will run without charge. Check must accompany all classified advertisements. Address all replies to Classified Advertisements with Box Number, care of *Aerosol Age*, Box 31, Caldwell, N. J. Closing date: tenth of month preceding month of issue.

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AEROSOL SPECIALIST—36 years old, B.S., M.S. in biology, chemistry minor. Research and product development 6 years, including formulation, testing and labeling. Desires position in product development. Box 170, c/o Aerosol Age.

A Correction

As with most such efforts, we have found that the 1958-59 issue of the *Aerosol Buyer's Guide* contained a number of omissions and errors. For instance, the address of American Special Machine Co. should read 1401 Webster Ave. rather than Western Ave. Also JG Machine Works, 452 W. 46th Street, New York 36, should have been listed as a source of supply for can unscramblers, container cleaning and purging equipment, conveyors, ingredient fillers, nitrogen pressure testers, as well as the production filling lines and laboratory filling equipment for which the company was listed.

Hysan Appoints Shafiroff

Hysan Products Co., Chicago has announced the appointment of Isidore Shafiroff as director of chemical research and production quality control. A graduate of Brooklyn College, for six years he was a member of the Foster D. Snell Organization in New York. During the past two years he has been a senior research chemist with R. M. Hollingshead Corp. in its chemical specialties and aerosol division.

Technical papers by Mr. Shafiroff have received widespread publication in the chemical specialties field. He is a member of the American Chemical Society, American Society for Testing Materials, American Institute of Chemists, Armed Forces Chemical Association, the Philadelphia Organic Chemists Club, the American Society for Quality Control and the Chemical Specialties Manufacturers Association.

•

Sole Names Monroe-Danford

The Sole Chemical Corp., Chicago chemicals producer, announces the appointment of Monroe-Danford & Co., Weehawken, N. J., as technical representatives in the area of New York State, and upper New Jersey. The Monroe-Danford organization, consisting of Maxwell D. Smart, Donald M. Shaw, and Roy H. Hoonhout, will serve the cosmetic, pharmaceutical, and aerosol industries with Sole's broad line of surface active agents.

•

Marcus Heads Paragon

Paragon Distributing Corp., New York, distributor of "Roux," a leading aerosol hair coloring, has named Joseph Marcus, who had been a vice-president, to the post of president. Two former assistant sales managers, Norman Kayan and Raymond Feld, were also advanced to new executive posts, Mr. Kagan to treasurer and sales manager of the Eastern Division and Mr. Feld to secretary and sales manager of the Western Division.

•

Considine to Felton

William J. Considine has joined the Felton Chemical Co., Brooklyn, N. Y. as technical director and head of the analytical department. He was formerly with the Sloan Kettering Institute for Cancer Research and the Squibb Institute, and also has taught at Yale and Columbia Universities.

At the same time Felton announced the appointment of Dicran P. Kazanjian, a veteran of 18 years with the company, as purchasing agent.

Book Review

Fine Particle Measurement—Size, Surface, and Pore Volume, by Clyde Orr, Jr., and J. M. Dalla Valle, published by The MacMillan Co., 60 Fifth Avenue, New York 11; $10.50; 351 pages.

Two authors, both of the Engineering Experiment Station, Georgia Institute of Technology, have assembled a detailed discussion of the important techniques currently used in research laboratories for the measurement of size, surface, and pore volume. Highly technical in nature, the book is aimed at such a high level of knowledge that its application in the aerosol packaging field will probably be limited to research directors, technical personnel, and other skilled people who have the need for so technical a reference volume. One likely market for the book will undoubtedly be university researchers, pharmaceutical people, and cosmetic technicians who are directly concerned with establishing particle size produced by any given pressurized product, valve, or propellant.

The book provides a comprehensive description of more than 70 techniques, including automatic scanning, the fixed-time method, the Hauser-Lynn method, gravimetric analysis, and liquid-phase sorption. It should probably be pointed out here that some of these techniques are practical for tracing radioactivity, pollen, heavy industrial smogs and aerosols, etc., and have little real application for the pressurized package; but they should provide a good background knowledge for anyone working on allied methods for aerosol package research. The 43-page bibliography in itself is probably one of the most complete ever assembled on the subject.

•

French Aerosol Installation

Etablissements Fragonard, Grasse, France, has established an extensive pilot pressure filling line to aid in its perfume, cologne, and suntan oil research. The installation was set by Dr. Patrick Fuchs, a Chemical engineer, and employs Aeratom pressure filling equipment from Switzerland.

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1958-59 Aerosol Buyer's Guide

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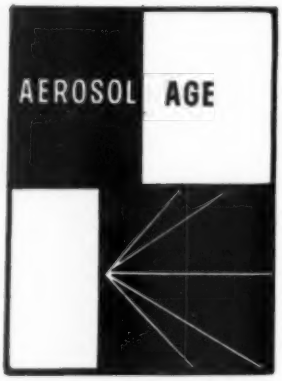

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Chromatography Symposium

The Instrument Society of America announced last month that it will hold its second three-day International Symposium on Gas Chromatography, June 10-12, at the Kellogg Center for Continuing Education in East Lansing, Mich. The sessions are to be directed toward a discussion of theoretical and practical advances in the field of gas chromatography as it applies to both laboratory analysis and industrial process control.

Contributed papers relating to specific major or minor advances in gas chromatography are now being solicited by the program chairman, Vincent J. Coates of the Perkin-Elmer Corp., Norwalk, Conn.

DeCarlo Leaves Fluid Chem.

J. J. De Carlo, plant sales and packaging coordinator for Fluid Chemical Co., Newark, N. J. custom filler, has left that company to assume the position of assistant sales manager for W. P. Carey & Co., Renault-Peugeot automobile import dealers in Bloomfield, N. J.

OVER THE TRANSOM

IT'S probably no longer a secret, but we hear that CSMA has cancelled its convention reservation at the Commodore Hotel for 1961. Abysmal room and elevator service, plus the general mixed-up atmosphere created by putting the convention into too large a hotel and mixing delegates with usual transient hotel registrants, made far too many people uphappy at the 45th annual meeting at the Commodore last month. For instance, the hospitality rooms for the "Open House" were scattered all the way from the 22nd floor down to the first, and exceptionally slow elevator service often caused a long wait between floors. Also, the suites were arranged so that they were stuck into the farthest corners of each floor, necessitating long hikes even after a successful elevator connection was made.

* * *

One interesting sidelight of the December convention: Joe Moore, of McLaughlin Gormley King, almost had a grandstand seat for an exciting holdup of the hotel cashier. Joe was standing at one of the windows when a man in a rubberized Halloween mask (similar to the ones employed in the legendary Brink's hold-up) approached another of the windows. Joe, in the course of his business, turned on his heel and walked away, and the would-be holdup man, confused by this turn of events, tore off the mask and fled into the street.

* * *

Add to the end-of-year rumors (this one a good one): An aerosol trade show may be in the offing. The CSMA is rumored to be contemplating one, possibly in conjuction with one of its annual or midyear meetings; and there are also indications that other groups are thinking about something along similar lines.

* * *

Marketers of aerosol food products would do well to consult the FDA before going ahead with full-scale marketing of their products. The new Food Additives Amendment covers chemical additives to foods quite thoroughly, and the first time this law is by-passed and any harm to the consumer results, the marketer of the product is liable for heavy punishment.

Among the attractions at the Open House night of the CSMA meeting was this turtle race sponsored by Aerosol Techniques, Bridgeport custom filler, and judged by shapely model Adele D'Avanzo.

* * *

The term "aerosol," in its original meaning of a dust or smoke concentration suspended in the air, seems to be making news lately in a way that may confuse some of the Consumer Public. In November, the *Los Angeles Times* carried the following in an editorial: "Los Angeles has more smog than other cities because from time to time an invisible lid is clamped upon the lower atmosphere, holding it almost immovable while the sun manufactures irritation *aerosols* from the exhaust fumes from a couple of million cars and trucks."

In the *New York Times* during that same month: "It would be nice to be able to fight at least part of a war without killing or wounding anyone, and without property damage. This might be achieved by the use of an aerosol which would be breathed by enemy troops and which would temporarily diminish their will to fight and resist, or possibly just make them sleepy, but leave no permanent adverse effects." This passage is from an address by Maj. Gen. August Schomberg, Deputy Chief of Ordnance, before the annual meeting of the American Ordnance Association.

"But lady, I don't wanta smell like apple blossoms!"